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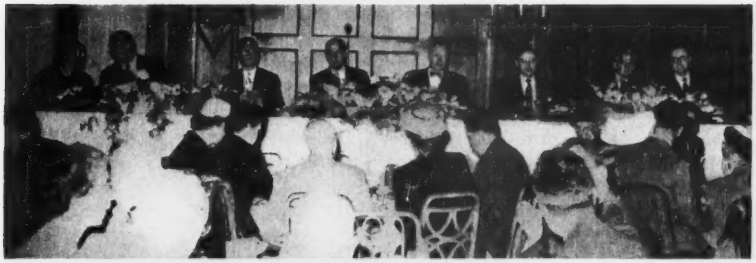
Our Annual Meeting

WASHINGTON, D. C.
1951

Carlos Criner of Havana, Cuba, flanked on his right by Doctors Aida Stein and Isobel Canosa and on his left by Walter McBride and Harold Addelston.



↑ Speakers' table—Annual Banquet.

Mike Cohen, Sid Kohn, Earl Lampshire, Hugh Keenan, Harold Klein.

Members of our Washington, D. C. Unit.

One of the table clinics.

Another table clinic.

Morris Kelner and Sid Kohn checking in.

Members of our New York Unit.

Another table clinic—Mike Cohen-Boston—presiding.

Harold Klein, Floyd Hogeboom, Hugo Kulstad, Bill Taub.

Our Scientific Session—speaking—Dr. I. N. Kugelmass, seated—Dr. Russell Dixon, Dr. J. A. Salzmann, Dr. Maury Massler.

Phil Robin, Hugo Kulstad, Helmut Zander.

Another table clinic.

The Utilization of the Carpal Radiograph in the Practice of Dentistry for Children

DAVID F. STRIFFLER, D.D.S., M.P.H.
Dearborn, Michigan

Editor's note:

Dave Striffler is a graduate of the University of Michigan, from which he received both his D.D.S. (1947) and M.P.H. degrees (1951). During his work for his M.P.H. degree, he worked part time as dental health consultant for the Dearborn, Michigan, School Board, where he is now Director of School Health and ye Ed knows personally that he is doing a fine job.

Dave's uncle, E. R. Romine, is a periodontist in Detroit and his Dad was a dentist in Pontiac, Michigan, so dentistry came to him as a profession natural to pursue. Not many of his associates know that he was bed-ridden for a year, after his graduation from dental school, but that his indomitable courage carried him thru his misfortune with a renewed ambition to serve his fellow men.

The accompanying article is extremely interesting and challenging as well as informative, and if you're any sort of a student at all, you'll like it, as we did!

A.E.S.

THE use of the carpal radiograph may be considered by some practicing pedodontists as a technic which is too involved or of little diagnostic value. Perhaps it is not.

It is the purpose of this paper to explore the possibilities of the carpal radiograph in the practice of dentistry for children. Indications for, technics involved in, and the interpretation of the carpal radiograph will be reviewed so that the reader may re-examine the values of this simple technic.

REVIEW OF PERTINENT LITERATURE

The carpal radiograph may be indicated for use by the pedodontist when he wishes to assess the "physiological, biological, skeletal, or carpal age" of a child, that is, his skeletal maturity, as contrasted with chronological age.

To support this indication, Howard (8) has stated: "Age expressed in chronologic figures is of little value as compared to the physiologic status of a growth problem." In addition, Krogman (10) has condemned the "uncompromising rigor of the old height-weight-age tables" as being too arbitrary and added: "... the assessment of skeletal age provides the one sure basic biological age of the child. He is either 'normal,' 'advanced,' or 'retarded' with reference to chronological age." Krogman emphasized "carpal age" as a good indicator of "skeletal age."

Olson (14) (p. 165) has stated: "Anatomists would like to have more sensitive indicators of skeletal growth than measurements of height. An x-ray of the hand and wrist has come to be one of the standard and most often used measures of skeletal development." Olson and Hughes (17) have said: "Growth is an individual matter and must be appraised from the point of view of the nature of the

individual. There can be no common expectancy for achievement when it is conditioned by sex differences, the total maturity of the child, and the family from which he comes."

According to Stuart and Stevenson (23) (p. 25): "One can usually evaluate osseous development in a satisfactory manner for clinical purposes from roentgenograms of the hand and wrist . . ."

Todd (24) (p. 19) has concluded that the radiographic assessment of the hand is an excellent method, if not the best method, of determining the level of skeletal maturity of a child.

Flory (4) (p. 125) has said: "Carpal bones, epiphyses, phalanges, and metacarpals give a very good picture of the process of bony growth in the body as a whole." He also has said (p. 130): "It is an impossible and an unnecessary task to try to make all children conform to a standard growth rate or attain a standard developmental pattern. Children are parts of the group in which they move but they are also individuals who have a right to develop at their own pace."

Hence, validity of "age" values should be placed upon a "maturity age" rather than "chronological or calendar age." Should the pedodontist desire to know how "old" a child actually is, the carpal radiograph is one tool at his disposal which will at least give a fair and more adequate measure of the child's true status of maturation.

In addition, the pedodontist (who quite likely will see a child more frequently than the physician or pediatrician) may suspect that a child is suffering from some pathological condition of which the child or his parents are not aware. For example, should some endocrine dysfunction be suspected which affects development, a carpal radiograph may aid in confirming the suspicion.

Flory (4) (p. 22) concluded that the available evidence points in the direction of delay in ossification of the carpals in some physical disorders, with some cases of acceleration due to certain types of endocrine disturbances. He also found one case of pubertas praecox in which development of the skeleton was accelerated by approximately ten years.

Hodges (5) stated (p. 126): ". . . the behavior of certain diseases is so intimately related to osseous development that any significant change in the normal time schedule may in itself be of great diagnostic value." He (5) said further (p. 150): "A number of endocrine diseases of infancy and childhood produce alteration in the normal time of epiphyseal ossification. The most striking example is found in the great delay characteristic of cretinism."

Howard (9) emphasized the importance of carpal radiographs in the study of "growth perversions," especially hypopituitary and hyperpituitary conditions.

Lurie (11) maintained that "skeletal age" may often give a clue to certain metabolic and endocrine disorders.

Todd (25) also stated: "For the reason that it gives an estimate of the extent of demineralization a roentgenogram of the hand is most useful." In addition Todd (26) mentioned osteochondrosis as a possible finding in a carpal radiograph.

Shelton (21) said, "That retardation of osseous development is pathognomonic of early hypothyroidism is well established." Few hypothyroid children present classic evidence of cretinism or myxedema unless the condition is far advanced. Therefore, many were considered normal until some definite evidence presented later in life. It would

seem pertinent for the pedodontist to be alert for these contingencies.

One might assume rather safely that "behavior problems" often find their way to the specialist in dentistry for children. Insight into these behavior problem children well might help in handling the dental-office situation. An assessment of skeletal maturity by means of the carpal radiograph may aid in providing the pedodontist such insight.

Olson and Hughes (15) pointed out: "When growth fails to maintain itself at a steady rate and sags as it does [for example] . . . between the ages of seventy-two months and eighty-four months, one may expect associated emotional disturbance and social maladjustment." Mechem (12) has shown that any discrepancies between various indices of physical and mental growth often are associated with a "behavior problem." Olson (14) (p. 185) has indicated that there appears "to be more than a chance association between anomalies of growth and pattern and the disturbed or disturbing behavior . . . ."

On the other hand, perhaps a child's behavior may not achieve the maturity that one expects on the basis of chronological age. As pointed out earlier, the child may not be as "old" as he says he is and the carpal radiograph may aid one in assessing his true age. One must realize, as Olson (14) (p. 187) put it, that "immature growers yield immature products."

Todd (24) (p. 13) summed up rather neatly one's diagnosis of the relationship of maturation and behavior: "A child who is retarded in maturation will think and act like a younger child. Experiences normal for his years simply fail to register. This often gives an air of irresponsibility puzzling enough to seniors who are answerable for his training. The analysis of psychological responses or behavior patterns is greatly aided by a preliminary assessment of the physical developmental progress . . . ."

The technics involved in radiographing the carpus are relatively simple. Modern dentists already have the basic apparatus available: a dental x-ray machine and darkroom facilities. The only additional equipment necessary would be a cardboard film holder and 5 x 7 or 8 x 10 inch standard radiographic film. Intensifying screens and cassettes are not necessary. G. W. Files (3) of the technical service department of the General Electric Company recommended the following procedure: "The hand is placed upon the film holder with the palmar surface down, and with the distal end of the third metacarpal bone over the center of the film holder. The wrist is elevated until the palmar surface rests against the film holder, and a sandbag is placed over the forearm to immobilize the hand. The central ray is directed to the center of the film holder." The size of the film employed is usually 8 x 10 inches; the exposure is 100 milliampere seconds; the source-film distance is 40 inches; and the kilovolt peak is 44. No screens or diaphragms are utilized.

The Ritter Company (18) has advocated the placing of the film holder on the backrest and headrest with the headrest adjusted to support the film holder in a horizontal position. The film recommended was a 5 x 7 or 8 x 10 inch "Ultra-Speed" or "Blue Brand" film loaded into a cardboard exposure holder. The holder was placed tube side up with the long axis of the film parallel to the carpal bones. The patient was seated sidewise in the chair facing the headrest with the armrest of the chair dropped. The hand was placed flat on the center of the film holder. Angulation on the "A" scale

was 90 degrees vertical. The target-film distance was 24 inches from the center line of the tube holder or end cover to the film. The pointer of the cone was directed so that the center ray passed at right angles or vertical to the center of the film. Exposure was ten milliamperes for one second.

Seibel (20) has described the technics of carpal radiography employed by the University of Michigan, School of Dentistry, Radiology Department: The volar (palmar) surface of the right hand was placed on a 5 x 7 inch cardboard film pack. This pack was on a flat table and the patient was instructed to rest his arm flat on the table. An attempt was made to include the whole hand, wrist, and distal aspects of the radius and ulna in the radiograph, but the distal aspects of the radius and ulna were included at the sacrifice of the inclusion of the finger tips when necessary. The film used was Dupont medical film, 5 x 7 inches. The exposure time for children was one second at 10 milliamperes.

Although the Ritter Company (18) recommended "Ultra-Speed" or "Blue Brand" film, the other two reporters did not think that special film was necessary. Ritter also advocated what seems to be a rather complicated and unnecessary procedure for seating the patient and placing the hand on the headrest. A simple table as a hand and arm support would appear to be an easier and less time-consuming procedure. For that matter, any convenient flat, stable horizontal surface would be adequate.

The procedure recommended by Files (3) would involve the use of a machine with controls permitting of variable kilovoltage. This complication would appear to be unnecessary in the light of the kilovoltage indicated by the Ritter Company and Seibel. The simplest technics to be followed by the dentist unused to taking extraoral radiographs seemingly are those described by Seibel.

Another factor to be noted is that the carpal radiograph might well serve as an introduction for the young patient to the dental office. The hand might well be considered by the child as a "detached" portion of the body. Nothing need be inserted in the mouth, nor must the x-ray machine be brought close to the child, which procedures could alarm an already apprehensive child unduly. Also, the child conceivably could be interested in seeing what the "inside" of his hand looks like.

The interpretation of the carpal radiograph can be, like the technics involved in taking it, relatively simple. However, should one wish to investigate extensively the involved implications and interpretation of the carpal radiograph, much literature is available on the subject. Very simply, the calculation of "carpal age" consists of counting the number of carpal bones present in the radiograph—one doesn't have to know the names or position of these bones—and applying the number counted to a pre-established standard. Here, however, is where complications arise, for the literature is rife with these standards, many of which are at variance. Table I presents an attempt at reaching a consensus of the standards available. The standards of ten reporters are listed with the consensus.

Table II is an attempt to rearrange the consensus from Table I into a more practical working arrangement for the busy pedodontist. He merely needs to count the number of carpals present in the radiograph and apply it directly to Table II to find the "carpal age" of the child.

At this point, a review of the carpus would appear in order. The following is a

list of the bones of the carpus [taken from Flory (4) (p. 12)] in the order of their chronological appearance (from the consensus in Table I):

1. Capitatum (Capitate, Os Magnum)
2. Hamatum (Hamate, Unciform)
3. Triquetrum (Triquetral, Cuneiform, Pyramidal, Triangularis)
4. Lunatum (Lunate, Semilunar)
5. Naviculare (Navicular, Scaphoid)
6. Multangulum majus (Greater Multangular, Trapezium)
7. Multangulum minus (Lesser Multangular, Trapezoid)
8. Pisiforme (Lentiform, Postular)

The first listing in each case is that of the Basle Anatomical Nomenclature; the names in parentheses are also terms commonly applied to the same bone. In addition, many reporters (4, 7, 8, 13, 19, 21) (as indicated in Table I) have added the chronological appearance of the distal epiphyses of the radius and ulna as further criteria.

"Carpal age" is used frequently because of its convenience and the ease in securing it in addition to the number of growth indicators it provides. Howard (7) stated that the hand is "a remarkable but condensed field" for determining bone progress. However, Olson (14) (p. 165) cautioned: "Actually, hand and wrist measure is but a sample which has a substantial but not a high relationship to other possible measures . . . ." For those who are interested in pursuing further more comprehensive studies of other age indices, one is referred to Olson (14) and to Olson and Hughes (15, 16, 17). For "dental age" one is referred to Cattell (2) and to Weinmann (27).

The interpretation of the carpal radiograph to determine pathological conditions is rather complex. Not only is a

TABLE I

The Year of Age by Which the Carpals and Two Epiphyses Should Appear; a Summary of Ten Reports and the Consensus

REPORTERS	CARPALS								DISTAL EPIPHYSES	
	1	2	3	4	5	6	7	8	9	10
	Capitatum	Hamatum	Triquetrum	Lunatum	Naviculare	Multangulum majus	Multangulum minus	Pisiforme	Radius	Ulna
Flory (4)	1	1	2	4	6	6	6	12	2	7
Michigan (13)	1	1	3	4	5	6	7	9–11	2	7
Stuart and Stevenson (23)	1	1	5	6	8	9	8	13	*	*
Shelton (21) (7 reporters)	1	1	2–3	4	5	5	6	10	1	6
Sontag and Lipford (22)	1	*	3	4	5	6	6	*	*	*
Holmes (6) (a)	1	2	2–3	4–5	5–6	5	6–8	10–12	*	*
Holmes (6) (b)	1	1	3	4	5–6	5–6	5–6	9	*	7
Howard and Elkin (7)	1	1	2	3	4	5	6	10–14	1	7
Howard (8)	2	2	3	5	7	5	5	11–13	2	5
Robinow (19)	*	*	3	4	5	6	*	*	2	7
Consensus	1	1	3	4	5–6	6	6–7	12	2	7

* Not listed or considered by the reporter.

count of the number of carpals necessary, but also an estimate of degree of mineralization, morphology, and appearance may be required (4, 24, 26). Standard radiographs of the hand have been established and are available in Todd (24) and Flory (4) so that they can be compared with a radiograph that one might suspect to indicate pathosis. Before "jumping to the conclusion" that something is amiss, one might follow the advice of Hodges (5) (p. 128): "... it is a wise practice to expose identical roentgenograms of the normal extremity as well as the one in which disease is suspected." Becks (1) indicated that deviations of two years or less from Todd's standards (24) were not pathological. It would seem reasonable, then, to keep alert for any pathosis which might be indicated in carpal radiographs, and that patients in whom striking deviations from the standard in number and appearance were found or suspected be referred to a physician for further study.

TABLE II

Appearance of Carpals by Age in Years; Tabulated from the Consensus in Table I*

BY AGE	NUMBER OF CARPALS PRESENT
1	2 (Capitatum and Hamatum)
2	2 (the distal epiphyses of the radius appear)
3	3 (adding the Triquetrum)
4	4 (adding the Lunatum)
5	5 (adding the Naviculare, but it may be late)
6	6 (adding the Multangulum majus)
7	7 (adding the Multangulum minus, but it may be early; the distal epiphysis of the ulna appears)
12	8 (adding the Pisiforme)

* These ages may vary by ± one year below six years and ± two years above six years (13). Females are usually ahead of males (4, 11, 19) and should be considered as physiologically advanced males (19). Note that approximately one new carpal ossifies each year between the ages of three and seven.

Once the "carpal age" has been determined, one should treat the child as if that age were his chronological age, within limits, of course. One can understand the child better and why he "behaves like a four-year-old," for example, when his chronological age may be six and his "carpal age" may be four. One would not expect as much from the "four-year-old" then.

Mechem (12) discussed cases which indicated that "physiological age" and chronological age cannot be assumed to be one and the same thing. For example, a youngster retarded in growth according to his chronological age may well be a "behavior problem," whereas in a year or two he may "catch up" with his chronological age and no longer present any problems. On the other hand, Mechem discussed a boy with a chronological age of nine years and three months who, when measured in terms of physical development, was almost 11 years old. When Mechem checked his record in school, the suspected behavior problem was verified.

Olson (14) (p. 187) stated: "It appears clear that affectivity and growth are interrelated." Olson and Hughes (16) (p. 1) concluded that "carpal age" and other indices assist one in "understanding why any given child is making a superior, average, or inferior adjustment in any given age group in those areas of activity dependent upon various phases of growth."

Hence, the pedodontist might well attempt an assessment of the child's maturation, an important tool in that assessment being the carpal radiograph. Olson and Hughes (17) have stated the reasons for such an assessment when they said: "Children differ in their rate and

level of growth and the acceptance of these differences permits policies which make schools [dental offices?] happier places for parents, teachers [pedodontists?], and children."

Discussion and Evaluation of the Review of the Literature

That chronological age is a poor measure of maturation was agreed upon by Flory (4), Howard (8), and Krogman (10). Flory (4) (p. 125), perhaps, expressed it well when he said: "A very superficial analysis of growth and development reveals to the layman that all persons do not fit into the same mould. Parents know that children in the same family and under nearly the same environmental influences do not mature at exactly the same age. Measurements of height and weight have given clues to the developmental progress of children. Height and weight disciples through emphasis on uniformity frequently fall into the errors committed by their forerunners."

That "carpal age" (and hence, "skeletal age") is indicated as an estimate of maturation was agreed upon by Flory (4), Krogman (10), Olson (14), Stuart and Stevenson (23), and Todd (24).

That the carpal radiograph can aid in the determination of pathological conditions was demonstrated by Flory (4), Hodges (5), Howard (9), Shelton (21), and Todd (24, 25, 26).

That "carpal age" may aid in understanding behavior and affectivity was delineated by Olson (14), Olson and Hughes (15), and Todd (24).

However, there was little agreement on the time of appearance of the carpals. An analysis of each of the reports would appear to be of aid in determining their validity.

Flory's work (4) appears to be the most exacting and comprehensive. It was conducted over a period of 15 years at the University of Chicago. He gave a well-documented comprehensive review of the literature, analyzed his own research by statistical treatment, and included an adequate number of subjects (from 20 to 100 in each age group). His table gave the median age.

Holmes' report (6) was given in a textbook; the source for his age standards was not given; his two tables (a and b in Table I of this report) were not in agreement; the number of subjects was not given, nor was statistical treatment employed.

Howard and Elkin's study (7) was over a four-year period with a total of 700 subjects. However, a later report (8) by Howard differs with the time of appearance of the carpals reported earlier. One would suspect that the second report was the more accurate, since over 4,000 carpal radiographs were utilized. Statistical procedures were employed.

The table (13) offered by the University of Michigan, Department of Pediatrics apparently is based upon clinical experience and observation. The number of subjects was not given, nor was statistical treatment mentioned.

Robinow (19) conducted an excellent study upon a limited number of subjects (31), but employed statistical treatment. The values given are means.

Shelton's report (21) combined the work of seven other reporters into one table. The number of subjects was not given, nor was statistical treatment noted.

Sontag and Lipford (22) reported on but six of the eight carpals. The number of subjects was not noted, but statistical treatment was employed. The values given are means.

Stuart and Stevenson (23) in a text-

book approach presented a table of appearance of carpals, but the source was not noted, nor was the number of subjects given. Their values represent the time by which 90 per cent of the subjects had shown appearance of the carpals.

Todd (24) presented a monumental work in his "Atlas of Skeletal Maturation." His study included over 250,000 measurements, and statistical treatment was employed. Over 4,000 children participated as subjects. His standards are in the form of a typical radiographic plate for a particular age. He did not attempt to tabulate the age at which various carpals appear, but was more concerned with the appearance, morphology, and area of the carpals.

The determination of a "consensus" from the many types of reports in the literature is, of course, questionable. But until two reporters can agree, or until one reporter's work is duplicated and confirmed by another reporter, the "consensus" would seem to be the most practical procedure. It should be noted that some reporters presented their values in the form of means (arithmetic averages), some in the form of medians (that value at which half of the measurements fall above and half below), and others did not indicate what type their value was. The "consensus" might be called the mode (that value which occurred the oftenest). In taking the values from the literature, where exact ages such as year and month were given, the next year immediately following was tabulated. For example, if a reporter listed the time of appearance of the lunatum as 42 months, it was tabulated as appearing by at least four years.

Olson's (14) and Olson and Hughes' (15, 16, 17) reports are difficult to evaluate as are any subjective studies. They have employed unique methods of studying child development, but are the first to admit that more work is needed. Their reports do not indicate the number of subjects employed or whether statistical treatment was employed. Apparently many of their conclusions are based upon clinical experience and case histories.

Insofar as the technics of carpal radiography are concerned, the simplest technic that produces adequate radiographs would appear to be the most practical. The technics described by Seibel (20) seem to be the most advantageous for use in the dental office.

Summary

An attempt has been made to delineate the indications for, the technics involved in, and the interpretation of the carpal radiograph as they relate to the practice of dentistry for children. The literature was explored, reviewed, and evaluated as it pertained to each of these phases. A simple technic for taking the carpal radiograph was described; a table from which "carpal age" could be calculated was formulated from a consensus of the reports in the literature; the carpal bones (with alternate nomenclature) were listed; and the relation of "carpal age" to development and behavior was noted.

Conclusions

The following conclusions may be drawn:

1. The carpal radiograph is a ready tool at the pedodontist's disposal which will give a better estimate of a child's maturity than will chronological age.

2. The carpal radiograph may reveal suspected and/or incidental pathological conditions, especially endocrine dysfunctions.

3. The assessment of skeletal maturity

provided by the carpal radiograph may aid the pedodontist in gaining insight into "behavior problems."

4. The technics involved in carpal radiography are relatively simple.

5. "Carpal age" may be calculated quickly and simply from pre-established tables of standards.

6. Reports in the literature are at variance concerning the time of ossification of the carpal bones.

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Active membership implies prompt payment of your dues—and the A. S. D. C. is only as vital as its active membership!

That check for your A. S. D. C. dues is a deductible item on your Income Tax return. (As if you'd forget that!?)

Unit News

Editor's Note:

If news of your Unit is not listed, contact the correspondent or officials of your group and ask why. Your editor will be grateful for news he receives and can publish.

MEL NOONAN,
Birmingham, Michigan

MICHIGAN

The Michigan unit had one of its most successful meetings last December 5th. The meeting was held in Detroit. The program was a progressive table clinic and the clinicians were as follows:

1. William E. Brown—"Recent Developments in Treating Fractured Anteriors"
2. Joseph Cabot—"Matrices That Function"
3. Myron Kaufman—"General Anesthesia"
4. Edward Martinek—"Preventive & Palliative Orthodontics"
5. Harold Maxmen—"Root Canal for Young Permanent Teeth"

NORTHERN CALIFORNIA

On Tuesday evening, December 11, Dr. Herman Becks of the University of California spoke at the winter meeting of the Northern California Unit of the American Society of Dentistry for Children.

His topic "The Toxic Effects of Vitamin D overdose as it relates to Oral Structures", was of great interest. Talks such as these by original investigators seem to have a special flavor. Everyone took much valuable information away.

Election of officers was held. The new officers are:

President—Dr. Charles Sweet, Jr.
Pres. Elect—Dr. John Sowden
Vice Pres.—Dr. John Toccini
Secretary—Dr. Lloyd Richards
Public Relations Committee
3 year term—Dr. Kent Kohler
Membership Committee
3 year term—Dr. Eugene Taano
Director
2 year term—Dr. Irwin Beechen

Ed Mack reports: "Our Fourth Annual Children's Dental Health Conference was held Monday, February 4th at the St. Francis Hotel, with the theme of the meeting being "A Problem and a Challenge".

The morning session followed the general heading "What are the Problems?" Opening speaker was President E. L. Hicok who discussed "Our Children's Birthrights". Dr. Henry C. Schumacher, psychiatrist, Consultant in Mental Health Activities, U.S.P.H.S. spoke on "Emotional Growth and Development of the Child". Dr. Francis W. Summers, member of the Executive Council of the American Society of Dentistry for Children, and a leading Los Angeles pedodontist, chose the title, "The Child as a Patient". At the luncheon session, Dr. Cecil Parker, Associate Professor of Education, University of California, spoke on "What it Means to be a Child Today".

The afternoon was devoted to providing the answers. A panel discussion with "What are the Answers?" as its theme was headed by Dr. William Griffiths, Associate Professor of Public Health

Education, University of California, as Moderator. Members of the panel and their subjects were: Dr. Francis W. Summers, "The Dentist's Viewpoint"; Dr. Henry C. Schumacher, "The Child's Viewpoint"; Dr. Cecil Parker, "The School's Viewpoint"; Dr. Hugo M. Kulstad, "The Community's Viewpoint"; Mrs. L. S. Baca, "The Parent's Viewpoint". Mrs. Baca is chairman of the Public and Dental Health Committee, California Congress of Parents and Teachers.

The concluding address, titled "The Next Step?" was given by Dr. Charles A. Sweet, Director of Post Graduate Education, College of Physicians and Surgeons, San Francisco.

Dr. Irwin I. Beechen was chairman of the meeting, which started at 9 A.M. and was open to the membership upon payment of a registration fee of $5.00, which included luncheon.

* * *

New York

Bob Montgomery, President of this Unit writes us as follows:

"On Sunday, December 2, 1951, we held our ad-interim meeting in New York City at the Hotel Statler. Dr. Nicholas A. Ippolito arranged a very excellent program on the subject, "The Dental Pulp in Primary and Young Permanent Teeth." Dr. William Lefkowitz described recent studies on the pulp; Dr. Morris Auerbach discussed endodontic techniques, and Dr. Harold R. Klein spoke on the use and abuse of vital pulp therapy. Plans are under way for a stimulating evening when we assemble in Syracuse for the Annual Meeting. We shall sponsor jointly with the Dental Society of the State of New York a General Session on Wednesday evening, May 14th."

* * *

Illinois

During the Chicago Midwinter Meeting, members of the Illinois Unit held their Annual Luncheon at the Conrad Hilton Hotel. Dr. Allan G. Brodie, Dean of the University of Illinois College of Dentistry addressed an enthusiastic and large audience on "Recent Advances in the Teaching of Dentistry for Children." Tom Barber, Secretary, writes that Dr. Brodie really enlightened the group!

* * *

Ohio

Cleveland's 12th Annual Children's Dental Health Day was held Monday February 4, 1952. Some 5000 children packed the Music Hall at Public Auditorium on Sunday afternoon February 3 to attend the layman's program, and at the Monday session dentists heard John Brauer, George Teuscher, Roy Ellis, Chester Schultz and Arthur Kuhner in a variety of lectures on the operative, clinical and psychological aspects of dentistry for children. Norm Denner wrote us that it was the best of many fine Children's Dental Health Day programs put on in Cleveland. Congratulations, Buckeyes!

Your Unit and A. S. D. C. dues for 1952 must be paid to entitle you to listing in the Directory of Members to be published early in '52.

Dentistry for Children*

BRUCE D. FORSYTH[1] AND WALTER J. PELTON[2]

Editor's note:
Those of you who attend the National Meetings of the A.D.A. have probably seen these two authors, Bruce Forsyth and Jack Pelton on many occasions. Both are interested in dentistry for children, although it is Jack Pelton who has been active in the affairs of the A.S.D.C.

Bruce Forsyth graduated from the University of Michigan School of Dentistry in 1930, entered the U.S.P.H.S. as intern in 1931, and has steadily progressed to his present rank. He is a Fellow of the American College of Dentists, member of the F.D.I., the A.A.P.H.D. and the A.P.H.A. and has written many articles for publication or presentation.

Bruce and his wife Dorothy live in Chevy Chase, Maryland, and although we have never visited their home, we surmise a person would have to be a good bridge player to be a regular guest, for those two are known to be avid devotees of the game, despite the fact that competition at the meetings they attend together long ago recognized their invincibility—except when Bruce gets his signals mixed!!

* * *

Jack Pelton, Handsome Jack to his wife Beatrice, is a graduate of Western Reserve University School of Dentistry, 1931. Commissioned in the P.H.S. in 1932, he served in several Marine Hospitals and in Alaska for the Coast Guard until 1938, when he enrolled at the University of Michigan and completed his requirements toward the M.P.H. degree.

A Fellow of the American College of Dentists and the A.P.H.A., Jack is also a member of the A.S.D.C. and a diplomate of the American Board of Pedodontics. He has appeared on many programs on dentistry for children, and has published many articles on that subject.

Avocationally, Jack is a horse fancier, which has cost him a pretty penny—not at the parimutuels windows—but in boarding or transporting his own horse from one assignment to another! At last information, the Peltons were getting ready to settle down near Potomac, Maryland, where equine care is not too costly!

—and now that you know about the personalities, you should read this article thru to appraise these gentlemen from the scientific literature aspect!

A.E.S.

AMERICANS are inclined to boast of their inventive genius and technical ability, so it is not surprising that American dentists have kept pace with the industrial world and have applied to their profession the technical and mechanical advances as rapidly as possible. The performance of American dentists in the scientific and research fields has been equally successful and noteworthy, considering the time element involved. The technical excellence of American dentistry has, no doubt, a great deal to do with the trend toward specialization in this country. Dentistry as a specialty for

* Presented at the regular meeting of the Milwaukee County Dental Society, Milwaukee, Wisconsin, October 24, 1951.

[1] Assistant Surgeon General and Chief Dental Officer, U. S. Public Health Service.

[2] Dental Director and Chief, Division of Dental Resources, U. S. Public Health Service.

children has been a recent development and has been influenced tremendously by an increasing knowledge of the basic sciences as well as our technical advances.

In spite of the efforts of dentists both here in Milwaukee, and in a number of other large cities in the United States, complete and good coverage of the dental needs of children is scarcely more than a token gesture. While we Americans have done much to increase our knowledge, and perfect our excellence in the various branches of dentistry, we have not done an outstanding job in applying that knowledge, nor in making our excellence available to the public.

A good deal of resistance has developed around the issue of solving our dental problem. The dental profession is to be congratulated for their forthright attitude that there is a problem and that people need more dental care than they are receiving. Where the argument arises is in how to solve the problem of unmet dental needs (1, 2, 3, 4, 5, 6, 7, 8).

There is universal acceptance of what constitutes a good preventive program for the control of dental caries. The Public Health Service advocates, with complete agreement by other interested and authoritative groups (9), the following specific methods of caries prevention:

1. Fluoridation of all public drinking water supplies to a concentration of 1.0 parts of fluorine per million parts of water.

2. Topical fluoride applications to the teeth of all 3, 7, 10 and 13 year-old children residing in areas where fluoridation is not yet possible (as in rural areas), and topical applications of fluoride to children residing in communities which have begun to fluoridate, for at least eight years after fluoridation is inaugurated.

3. Restriction of the use of fermentable carbohydrates or refined sugars in the diet of those who are caries susceptible.

4. Brushing or cleansing the teeth immediately after eating, and

5. Regular and periodic remedial treatment of correctable defects.

It should be emphasized that if we were fortunate enough to accomplish 100 per cent of these recommendations within the next year or two, the dental caries problem would still be beyond the scope of the present dental manpower. There is every indication that the ratio of dentists to the civilian population will become increasingly unfavorable as the armed services increase in size. By 1954 it is estimated that there will be about 9,200 fewer dentists available to serve the public than are needed to maintain the dentist-population ratio of 1949 (10). Coupled with the present military demands for dental service, the profession is faced with the serious problem of meeting the dental needs of the 18 year-olds who are to be called up for training under the proposed Universal Military Training program. In addition to the problem of seeing to it that the annual group of 18 year-olds are dentally fit, there is the immense problem of maintaining that status for the period the boys are in the reserve. If all 18 year-olds are considered veterans after six months of military training then it means that the Federal government through the Veterans Administration will be obliged to meet a heavier demand for dental treatment than ever before.

It is evident that organized public and private enterprise for dental care must be marshalled and be made more efficient if we are to control the caries problem. It is also evident that our scientific knowledge about prevention should be put to work without delay.

What are our weaknesses and where do

we need additional effort in dental public health? In the first place, the foregoing impressive list of caries preventives means little unless all local dental societies push as you have done in Wisconsin, to obtain fluoridation of public waters as rapidly as possible (11).

It is important to recognize that the full benefits of fluoridated drinking waters accrue only to those children who develop their teeth on such waters, that is, during the period of crown formation from birth until twelve years of age (12). Another fact too frequently overlooked is that adults who have resided in fluoride areas during their tooth formation period may expect to have from one-fourth (13) to one-twentieth (14) of the number of lost teeth experienced by the average individual of the same age who has not had the exposure to fluoridated waters. Future generations of oldsters, if they calcified their teeth on fluorine, will carry the lasting beneficial effect of fluorine regardless of where they live after the first eight to twelve years of their life (13, 14, 15).

Fluoridation then, is an ideal preventive measure. It is inexpensive, those who benefit have no duty to perform in order to receive that benefit and the fluoridating operation can be carried out by one agency, the local water works (16). The widespread use of this knowledge is a *must* and it is not a procedure that will come easily. Out of 16,500 public water supplies about 15,000 are manned by only the bare essentials of water plant operation. To adjust the fluoride content of all these public waters to 1 ppm of fluorine is everybody's job. It is one job that cannot have too many workers if we are to accomplish it rapidly and in time to help relieve the tremendous overall need for remedial dental service in this country. It must be remembered too, that when and if all 16,500 public water systems are properly fluoridating only about two-thirds of the population will be reached. The rural areas unserved by water systems contain a much larger percentage of the children than the above figure indicates.

Additional emphasis is needed in children's dentistry on the use of topical applications of sodium fluoride. It is conceded that all preventive measures should be used as soon as they have been proved to be effective. In the case of topical fluorides, the technic should be used in combination with the fluoridation of water supplies for at least eight years after the inauguration of a fluoridation program in a given community. These two procedures are not in competition with each other and a community should not be given a choice between them (17). They both have specific effects and the effects can be obtained simultaneously.

The private practitioner is the backbone of the profession. If more and better dentistry for children is to be the goal, then every dentist will have to contribute to that goal. Further, it is incumbent upon each practitioner to practice the preventive technics that are available to him as rapidly as they have been accepted. Therefore, the general practitioner should be obligated to use topical applications of fluorides to the best advantage. It is unrealistic, however, to expect the private practitioners, who see only 10, 20 or 30 per cent of the child population, to control the dental caries problem. To be really effective, the private practitioner has much to gain from promoting and encouraging the application of the drug to school children under conditions which stimulate interest with the total dental problem. Specifically, topical application programs in

schools where nearly all children can be reached not only permits the procedure to reach more children but it can be done with less expense if carried out by a dental hygienist. In these days of growing manpower shortages it is logical to make provisions for the best use of a dentist's time by promoting programs using dental hygienists to apply sodium fluorides to large numbers of children. Topical application programs properly conducted provide for referral of patients needing dental care to the family dentist. Interesting school officials and teachers in dental health through a concrete preventive technic is good business and profitable to all concerned.

In the future, it would seem that the wise dentist will inquire of each patient whether or not he has been born and reared in a fluoride area. If the patient has not been exposed to fluoridation, he will include topical application of fluorides in his attack on the caries problem of the individual. Evidence is at hand that the treatment is effective through the young adult ages (18).

If we have weaknesses in our local public health programs, we certainly have them as far as financing dental service for children is concerned. Much experience has been had with rendering free or low cost service to children of certain economic levels in a number of larger communities including Milwaukee. There have been only weak and sporadic efforts to develop, experiment with and learn about prepayment and postpayment plans for complete dental service for either children or adults (19, 20, 21). From a philosophic standpoint, it would seem that prepayment or insurance schemes might lend the best chance for an adequate solution to the dilemma of more care for more people. Postpayment plans always have seemed like locking the barn door after the horse was stolen.

Organized and complete dental care for children and young adults will become an increasingly important subject if Universal Military Training becomes a reality. Frankly, the dental profession must pay more attention to the needs of the public for the present national emergency is again putting a premium on good health. We have already had enough experience with the mobilization that took place during the last war to know that the school health records of young men rejected in Hagerstown, Maryland, because of defective dentition showed that the same defects had been noted 15 years earlier in school examinations of these same individuals (22, 23). Dental reasons for rejections were high in non-fluoride areas and low in fluoride areas (24). Likewise, it was known that in representative communities, such as Hagerstown, Maryland, where caries was attacking six times faster than the lesions were being repaired, the rejections could have been prognosticated (25).

In passing, a comment or two might be directed toward the remaining two items of an acceptable dental program, namely; the use of fermentable carbohydrates and toothbrushing. Certainly it is too much to expect that all sugars, sweets and carbonated beverages can be put out of reach of caries susceptible individuals. On the other hand, there appears to be no valid reason to suggest withholding information from the public concerning the role that carbohydrates play in caries production (26). Nor is it illogical to expect the school authorities to cooperate with programs designed to make wholesome foods available in lunchrooms and snack bars and reduce the flagrant promotion of the use of candy and carbonated beverages. Candy sales and soft drink dispensers are an easy source of revenue which schools probably would give up

if the community-minded dentist would help the schools solve their financial problems in some other fashion.

It probably will be a long time before we know all there is to know about the value of a toothbrush in controlling dental caries (27, 28, 29) and periodontal diseases (30). Enough is known, however, to recommend and encourage the use of a toothbrush without promising miracles. Solely as a caries preventive, the toothbrush lacks a great deal. In connection with other prevention steps, the toothbrush appears to have a definite place. This is especially true of periodontal conditions.

In closing, please permit me to emphasize that dental schools, State dental societies and local groups such as yours have made a tremendous contribution to the practice of dentistry for children. Accepted and approved operative technics for primary and the young permanent dentition are being crystallized and adopted. In short, technical and mechanical advances are being made and applied to dentistry for children. On the other hand, we are failing to distribute our scientific know-how as fast as it is accumulating. There is still a great gap between the services needed and the services rendered. Renewed and fresh efforts must be made by the profession to help solve the dilemma which is periodically brought to our notice through the mobilization of manpower during war emergencies.

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Around the Country

A.S.D.C.'s Vice-President, Dr. George W. Teuscher, Chicago, appeared on the program of the Denver Dental Association at its forty-fifth Annual Mid-winter Meeting, held January 6–9, 1952. Dr. Teuscher's subject was "Common Clinical Problems in Pedodontics", and was presented several times.

* * *

Dr. Philip P. Pyles of Boulder, Colorado, writes that his new bungalow type office is on its way up and that he should be able to move into it by March, 1952. Nice going Phil. We know that you are proud of your new office.

* * *

Dr. Ralph Ireland of Lincoln, Dr. A. A. Kubat of Omaha, Dr. Herbert Seberg of Hastings, and Dr. Sam Weinstein of Omaha are appearing on the Nebraska Annual Clinic Program to be held on March 24, 1952, at York, Nebraska. President Earl Lampshire, Lincoln, will be the luncheon speaker.

* * *

Dr. Joe H. Kauffmann, New York City, appeared before the Mount Royal Dental Society at Montreal, Canada, on November 16, 1951. Joe was the one-man program—lecturing for 2½ hours in the forenoon and clinicing 2½ hours in the afternoon. Joe has one of the largest toothbrush collections in the country and uses it in demonstration of mouth hygiene.

* * *

Dr. Cecil Muller of Omaha attended a two-week seminar in Orthodontics at Columbia University in New York the first part of December, 1951.

* * *

Our New York Unit members have been active in the radio program series of the Oral Hygiene Committee of Greater New York. During December Matt Besdine, Joe Gary, Irving Skolnick and Rubin Josell each presented one Tuesday morning broadcast.

* * *

Tony Malone, of our Illinois Unit, spoke before the West Suburban Branch of the Chicago Dental Society at its Round Table January 7. His subject was "Periapical Resorptions in Human Permanent Teeth", and as Tony usually does, he kept his audience interested until he "signed off".

* * *

Editor Al Seyler forwarded us an announcement of the First Convention on Dentistry for Children sponsored by the Dominican Republic Society of Dentistry for Children, whose president is Dr. F. Garcia Godoy. The affair consumed an entire day, from 9 A.M. 'til 6 P.M., and presented outstanding speakers and clinicians on different phases of dentistry for children. Congratulations to our progressive Dominican confreres!

* * *

The newly organized Alumni-Alumnae Association of the Eastman Dental Dispensary is planning its second reunion for Sunday, April 6, 1952 at the Eastman Dental Dispensary in Rochester, New York. All former internes and clinical

and research staff associates are cordially invited to attend, with their families. Those past associates of the Eastman Dental Dispensary who have not been receiving Alumni-Alumnae News are requested to notify Dr. Hyman J. V. Goldberg, in care of the Eastman Dental Dispensary, 800 East Main St., Rochester 3, New York.

* * *

We thought the following succinct observations by Joe Kauffmann in the Bulletin of the New York Unit should be reprinted:

"Obviously, every day in the year should be one of Dentistry for Children and all parents must learn to understand this. But there is another side to the picture. It is not sufficient for a dentist to engage in wordy volubility about his yearning for the dental welfare of children, and then do nothing about consummating his oratorical ideals in daily practice. The result of such sterile vocalization is similar to that obtained when one throws crumbs from a table to some person in need of a full meal. Presiding only in an atmosphere of ornate artificial dentures is helpful indeed to those who require them; but the point is that all the beautiful prosthetic restorations ever constructed will not save even one professionally neglected first permanent molar in the mouth of a young, growing child. We wish always to be temperate in expressing our thoughts; nevertheless, we do feel that there is too much insincere Pollyanna talk on the part of some dentists about their consuming concern with the child's oral welfare. Actions speak louder than words, and many of our profession still have a long, long way to go as far as Dentistry for Children is concerned."

Items of interest for this column should be sent to Dr. Laren Teutsch, Editor, 4201 Farnam St., Omaha 3, Nebraska.

WANTED!!

CLINICIANS FOR THE NEXT ANNUAL MEETING OF THE AMERICAN SOCIETY OF DENTISTRY FOR CHILDREN TO BE HELD IN ST. LOUIS, MISSOURI, SEPTEMBER 6 AND 7, 1952.

Clinics are limited to twenty in number.

Any member wishing to present a clinic, contact me immediately

Dr. John E. Gilster
Chairman of the Subcommittee on Clinics
4559 Scott Avenue
St. Louis 10, Missouri

An Appraisal of Drugs to Premedicate Children for Dental Procedures

JAMES W. RUBLE, D.D.S.
Columbus, Ohio

Editor's note:

Jim Ruble was born at Hillsboro, Ohio in 1913. His D.D.S. degree was conferred by Ohio State University in 1937, after which he spent a year at the Guggenheim Clinic.

After several years in private practice and the U.S.P.H.S., he entered the University of Michigan and received his M.P.H. in June 1951, and is now Chief of the Dental Division of the Columbus, Ohio Health Department.

Avocationally Jim takes to hunting and fishing, sometimes using his free week-ends to pilot a private plane to far distant areas.

This paper on premedication is timely, inasmuch as we are hearing more and more about the subject in dentistry for children. We hope you like it.

A.E.S.

PREPARATION of the child for dental procedures should start soon after birth and continue until he is mature. Most children who have had a happy home life and proper training make satisfactory dental patients and will continue to be good patients if given competent guidance at home, school and the dental office. Some children do not receive this proper home care and guidance and as a result may arrive at the dental office as maladjusted, highly apprehensive individuals.

All dentists are sympathetic with the highly apprehensive child and have several reasons for trying to allay these fears and minimizing the effects of dental procedures. The psychic trauma of dental treatment upon an unprepared child may have long-lasting and serious results. The screaming violent child, on occasion, can unnerve the dentist, his staff and the child's parents, and can make a relatively simple procedure difficult and time consuming. In meeting the problem which the difficult child presents, suitable premedication should be considered as an aid in obtaining a cooperative patient (1, 2, 3, 5, 6, 7, 19).

This paper will present a survey of the literature on drugs which may be used to premedicate children for dental procedures and will attempt to appraise their comparative values.

REVIEW OF THE LITERATURE

Barbiturates

"The barbiturates in general are central nervous system depressants, with which almost any degree of depression, from light sedation through deep hypnosis, may be obtained through selection of drug, dose, and route of administration" (18). These drugs may be grouped according to their duration of action which may vary from a prolonged to a very short duration of time (Table I) (9). The longer acting barbiturates are excreted by the kidneys and the shorter acting ones are detoxified or destroyed in the liver (18, 9, 15). "The average dose to produce sleep does not depress respira-

TABLE 1

Barbiturates accepted for clinical use

TRADE NAMES, SYNONYMS, AND CHEMICAL NAMES	RECOGNIZED IN	DURATION OF ACTION (APPROX.)*	AVERAGE ADULT HYPNOTIC DOSE IN GRAM
Alurate† (Allylisopropylbarbituric acid)	N.N.R.	M	0.065–0.13
Amytal† (Isoamylethylbarbituric acid)	N.N.R.	M	0.1–0.3
Barbital†, ‡, Barbitone, Veronal (Diethylbarbituric acid)	U.S.P., A.D.R., N.N.R.	P	0.3
Dial (Diallylbarbituric acid)	N.N.R.	P	0.1–0.3
Hexobarbital Soluble, Evipal Sodium, Evipal Soluble (Sodium N-methylcyclohexenylmethyl - barbiturate	N.N.R.	S	0.26–0.39
Ipral Calcium,† Probarbital Calcium (Calcium ethylisopropylbarbiturate)	N.N.R.	P	0.12–0.25
Neonal, Soneryl, Butobarbital (n-Butylethylbarbituric acid)	N.N.R., A.D.R.	P	0.05–0.1
Nostal (Isopropyl-β-bromallylbarbituric acid)	N.N.R.	P	0.1–0.3
Ortal Sodium (Sodium n-hexylethylbarbiturate)	N.N.R., A.D.R.	M	0.2–0.4
Pentobarbital Sodium (Sodium ethyl (1-methylbutyl) barbiturate)	U.S.P., A.D.R., N.N.R.	M	0.1
Pernoston† (secondary Butyl-β-bromallylbarbituric acid)	N.N.R.	M	0.2
Phanodorn, cyclobarbital (Cyclohexenylethylbarbituric acid)	N.N.R.	M	0.1–0.2
Phenobarbital, phenobarbitone, Luminal (Phenylethylbarbituric acid)	U.S.P., A.D.R., N.N.R.	P	0.03–0.1
Sandoptal (Isobutylallylbarbituric acid)	N.N.R.	M	0.2–0.4
Seconal Sodium (Sodium allyl (1-methylbutyl) barbiturate)	N.N.R.	S	0.1–0.2
Thiopental Sodium, pentothal Sodium (Sodium ethyl (1-methylbutyl) thiobarbiturate)	U.S.P., N.N.R.	VS	—
Vinbarbital Sodium, delvinal Sodium (Sodium ethyl (1-methyl-1-butenyl) barbiturate)	N.N.R.	M	0.1–0.2

* Duration of action: M, moderate; P, prolonged; S, short; VS, very short, (intravenous).
† Sodium salt also in N.N.R. or U.S.P.
‡ Barbital Sodium also known as Medinal.

tion, but large doses can cause death by respiratory failure" (9). The margin between the respiratory failure and cardiac failure is wide enough to permit successful use of artificial respiration in the event of overdosage. "Death from poisoning or overdosage is usually due to respiratory failure. For this reason, the principal restorative measures in emergencies are directed toward the main-

tenance of adequate respiration, either through the use of stimulants that are able to counteract the depressing effects upon the respiratory center or by maintaining artificial respiration by whatever means are at hand. The central nervous system stimulants such as metrazol, benzedrine, caffeine and coramine are substitutes that may be used advantageously. Picrotoxin, which is perhaps most often suggested as the antidote for barbiturate poisoning, must be used cautiously, if at all, because of the latent period of its action. If used in amounts and at the rates which are often recommended, there is an excellent chance that convulsing seizures will be substituted for the depression" (16). "In the management of severe barbiturate intoxication, close supervision of the patient is essential. Frequent changes of body position, maintenance of body temperature and support of circulation are indicated. For stimulation, $\frac{3}{8}$ to $\frac{3}{4}$ grain (0.024 to 0.05 Gm.) of ephedrine sulfate and $7\frac{1}{2}$ grains (0.5 Gm.) caffeine with sodium benzoate may be administered hypodermically. Use of intravenous fluids gastric lavage, frequent catheterization, blood transfusion, oxygen therapy, endotracheal airway, and the cleaning of the trachea by suction are other important measures" (21).

Barbiturates may be used in the premedication of children (18, 19, 7, 8, 14, 17, 5). These drugs are indicated when the child is afraid, highly apprehensive or maladjusted and when local anesthesia is needed or long periods of time required for the treatment (18). Premedication with barbiturates will prevent the excitatory symptoms of procaine (20, 14). The short acting barbiturates are indicated in most instances for children (14, 5, 17, 18). However, Pitzen (4) states, "I have tried most of the barbiturates and their derivatives, the amidopyrines, and combinations of both, and have found, after some three thousand recorded administrations, that they offer no advantage over the less toxic Phenobarbital." It should be noted that Pitzen does not indicate the number of children in the three thousand cases reported.

In the administration of barbiturates one must consider their action on the kidneys and liver. It is well to remember that the long acting barbiturates are eliminated in the liver and the short acting drugs by the kidneys. Barbiturates are not indicated for patients with goitre (4). Idiosyncrasies to barbiturates are rare. Lampshire (18) reports two cases of idiosyncrasy in two hundred children. These cases were mild and it was necessary only to remain with the patients to prevent them from causing bodily injury to themselves. "Ordinary doses in susceptible individuals may produce temporary mental disturbances characterized by excitement, delirium, and even hallucinations" (18). Pitzen (4) states, "The only contraindications I have found are patients suffering with goitre and those who have a drug idiosyncrasy. The untoward effect in these patients is a feeling of warmth, occurring shortly after the administration, which gradually increases until the patient feels he is "burning up." This is followed by a severe rash over the entire body. The skin becomes brick red either in blotches or in its entirety." Some children will go through an excitement stage which will last only a few minutes and then become quiet and relaxed (18). Computing the proper dosage for the premedication of children is a difficult and an important factor in the success or failure of the treatment. Lampshire (18) has listed ten factors which should be considered: case history, age, weight, mental attitude,

physical activity, contents of stomach, time of day, basal metabolic rate, level of depression desired and route of administration.

It should be ascertained whether premedication has been attempted previously and if possible the drug used and the results obtained. Younger children usually require smaller dosage and heavier children require slightly larger dosage. The nervous and apprehensive child will need larger dosage as will the fighting, screaming, or crying child. Large quantities of food in the stomach necessitate larger dosage particularly when oral administration is used. In small children smaller dosage may be used if given before their regular nap time while with older children it will be necessary to administer larger dosage in the morning than in the afternoon. The metabolic rate in children is naturally higher than in adults. Fear, pain and apprehension may raise the normal rate which will create the need for a larger dosage. Smaller dosage is required for sedation or relaxation than for hypnosis. Dosage larger than the oral dosage is required if the drug is given by rectum while smaller dosage is required if given hypodermically (18). "Children with a high fever do not require necessarily a larger dose of premedication in spite of the increased metabolism, as often they are toxic and lethargic" (8). Calculation of dosage for children is usually done by determining some fraction of the adult dose. Some of the rules frequently used are rules stated by Young, Clark, Cowling and Fried (12). Young's rule states that the adult dose be multiplied by the age of the child (in years) and divided by the age plus 12 (12). In Clark's rule the adult dose is multiplied by the weight of the child (in pounds) and divided by 150 (the weight of the average adult (12)). Cowling's rule multiplies the adult dose by the age of the child at next birthday (in years) and divides by the adult age, taken as twenty-four (12). "This rule gives data agreeing sufficiently well with the average weight curve, more accurately than Young's rule. The results are rather too low, before four years and above fifteen years, but the error is on the safe side" (12).

Fried's Rule states that the age of the child (in months) be divided by 150 and the resulting number multiplied by the adult dose: i.e., for a baby of five months, the dose would be $\frac{5}{150} = \frac{1}{30} \times$ adult dose = child dose (12). Gillean (14) gives the average dose for Seconal Sodium or Nembutal from $\frac{3}{4}$ to 1 gr. to produce sedation for dental treatment in children of the ages of 4 to 15 years. Lampshire (18) in his study of Seconal Sodium and Nembutal to premedicate children for dental treatment states, "It is usually wise to limit the maximum dosage for office use to 4 grains (0.259 gm.) with a minimum of $\frac{1}{2}$ grain (0.0324 gm.) and an average of $1\frac{1}{2}$ grains (0.1 gm.). It should be recognized that the maximum office dosage of 4 grains (0.259 gm.) is indicated for only the most extreme cases" (18). Pitzen (4) has found that children under twelve years of age may be made tractable by the administration of the official Elixir of Phenobarbital, containing approximately one-fourth grain of the drug to each teaspoonful. It is administered twice per day before the first appointment and continued throughout the following appointments. These doses are average doses and may be increased or decreased to meet the individual requirements. The dose of Phenobarbital should not be increased to over three grains in any single dose.

Robson (6) gives Table II for premedication of children prior to anesthesia.

Leigh and Belton (8) give Table III for sedation of children the night before an operation.

The barbiturates may be given orally, rectally and hypodermically either intramuscularly or intravenously. The oral route is the most common and probably the most desirable for children. These drugs may be given orally in tablet, capsule or elixir form. From the age of 5 years and older most children can be persuaded to swallow a capsule (19). Each end of the capsule should be pricked with a sharp instrument. The capsule may be embedded in a teaspoonful of honey, corn syrup or jelly which will help the child to swallow the capsule. Prior to 5 years of age an elixir of the drug may be given. It sometimes helps to mix the elixir in a carbonated drink (17). Children this age can sometimes swallow a tablet but not the capsule. The capsule may be opened and the powdered drug mixed in a teaspoonful of marmalade, applesauce, honey or jelly which will help in getting the child to swallow it. The rectal route of administration is sometimes used. Suppositories, or capsules which have been immersed in warm water are generally used for rectal administration (18). Shaerrer (5) states, "If preferred the Nembutal can be given rectally by dissolving the powder in about one half ounce of water and inserting well up into the rectum, guarding against its expulsion for a few minutes after its administration." It is estimated that approximately twice the time is required for absorption from the rectum as from the stomach and, as a rule, the rectal dose of a medicine is about one half greater than the oral dosage (10). Intravenous and intramuscular routes of administration are generally not indicated for dental procedures for children (18). "The intravenous injection of prompt acting and soluble barbiturates for basal anesthesia requires specialized knowledge and experience and should not be employed in the ordinary office practice" (15).

Barbiturates are not analgesic in themselves but may be used in combination with the analgesic drugs for the relief of pain (15). In the absence of postoperative pain following the appointment the child has a carefree, dizzy, unapprehensive attitude, is generally very sleepy, and does not have complete control of his voluntary movements (18). Therefore

TABLE II

Nembutal Dosage

AGE	NEMBUTAL ORALLY	NEMBUTAL RECTALLY
yrs.	*gr.*	*gr.*
4	¼	½
6	½	¾
8	¾	1
10	1	1
12–14	1	1½

TABLE III

Dosages of Hypnotics

Oral Dosage of Phenobarbital (Luminal)

AGE	NEMBUTAL ORALLY	NEMBUTAL RECTALLY
	gr.	*mgm.*
6 mos. to 1 yr.	¼	16.2
1 yr. to 3 yrs.	¼ to ½	16.2 to 32.4
3 yrs. to 12 yrs.	½ to 1	32.4 to 64.8

Dosages of Hypnotics

Oral Dosage of Pentobarbital (Nembutal) or Seconal

3 to 6 mos.	¼ to ⅜	16.2 to 24.3
6 mos. to 3 yrs.	⅜ to ½	24.3 to 32.4
3 yrs. to 8 yrs.	¾	48.6
8 yrs. to 12 yrs.	¾ to 1½	48.6 to 97.2

it is important that the child be accompanied by an adult and properly cared for until he returns to normal (18). "After the child gets home, he will sleep from two to eight hours. By the time he arouses he may be hungry and thirsty, and any postoperative pain which he may have felt has generally disappeared. Many times the child forgets his visit to a dentist" (18). The normal after-effects of the drug may vary with the individual, the drug used and the route of administration. Some of the undesirable effects which can occur have been described previously. Prolonged effects have been noted when barbiturates of long duration were given to patients with malfunctioning kidneys.

Bromides

Bromides can be used to premedicate children for dental procedures but are seldom recommended. "In order to be most effective, the bromides must be given for several days in order that an effective concentration of bromide can be reached and maintained. Hence single doses of bromides 1 to 2 grams are less useful as sedatives than chloral hydrate, the barbiturates or paraldehyde" (13). Sollman (11) states "a single dose of 1 to 2 gm. of sodium bromide is somewhat calming, tends to decrease worry and inclines to sleep, which is deeper and more dreamful. Conditioned reflexes are slower but truer. The effects are rather different from those of the ordinary hypnotics: the bromides tend to produce a mental calm, aloofness, and imperturbability, progressing to sluggishness, lack of attention and lassitude." The continued use of bromides is likely to result in toxic effects (11). Sodium Bromide is the preferred drug because it is as effective as the others and is less irritating and has a less disagreeable taste (11). The bromides have a taste similar to that of table salt and can be given easily in soup. This method of administration might be used to premedicate a child at home prior to coming to the dental office. In general bromides are not indicated for premedication of children for dental procedures because they are a long acting drug and to be effective must be taken over a long period prior to the appointment (17). Bromides do not act as promptly and are more subject to untoward actions and cannot be pushed to the profound effects that can be obtained with the barbiturates (12). "Acute fatal poisoning with bromides has seldom or never occurred in man since large amounts usually cause vomiting due to an irritant action on the stomach" (13). However, long continued administration of bromides may cause a chronic poisoning, which is called bromism (13).

Morphine

Morphine is used to premedicate children prior to anesthesia but there is a difference of opinion as to the advisability of its use for children. Sollman (12) states, "Infants are highly susceptible to morphine: there is a difference of opinion as to older children." However, Baker and Chivers (7) say, "Opium derivatives are seldom administered to children, possibly because of a traditional prejudice against them, but investigation has shown (B. C. Leech 1935, C. H. Robson 1936) that these drugs are extremely well tolerated." Robson (6) makes this statement, "Most publications state that 'Morphia is badly tolerated by children and by the aged.' The statement is true in regard to the latter age, but is certainly not true in regard to children. Not only does our clinical experience teach us that it is not true but we find that children

require relatively larger doses than do adults, to obtain the necessary therapeutic effects." Leigh and Belton (8) use morphine as a preanesthetic medication for children and suggest that it be administered one to one and one half hours before the anesthesia. Baker and Chivers (7) make this statement and submit Table IV: "The table shown here was used with satisfactory results in a series of 600 children aged from 1 month to 16 years."

TABLE IV

AGE YEARS	AVERAGE WEIGHT	EITHER OR		WITH HYOSCINE
		Morphine	Omnopon	
		gr.	gr.	gr.
Up to 6/12	Variable	Not tried	1/30 Not tried under 3 mo.	1/1200–1/900
6/12–1	18½ lb.	Not tried	1/30–1/24	1/900
1–2	22 lb.	1/40	1/24–1/21	1/600
2–4	2 st. 2½ lb.	1/32	1/18–1/15	1/600
4–8	3 st.	1/20	1/12–1/9	1/450
8–12	4 st. 5½ lb.	1/16	1/9	1/450
12–16	6 st. 6 lb.	1/12	1/6	1/300

TABLE V

AGE	WEIGHT	MORPHINE	MORPHINE
	lbs.	gr.	mgm.
Up to 2 mos.	7–10	1/480	0.14
2 to 3 mos.	10–12	1/360	0.18
3 to 4 mos.	12–14	1/240	0.27
4 to 7 mos.	14–16	1/144	0.4
7 to 11 mos.	16–19	1/120	0.5
11 to 18 mos.	19–24	1/108	0.6
18 mos. to 2 yrs.	24–27	1/72	0.9
2 to 3 yrs.	27–30	1/60	1.1
3 to 5 yrs.	30–40	1/48	1.4
5 to 8 yrs.	40–55	1/36	1.8
8 to 10 yrs.	55–65	1/24	2.7
10 to 12 yrs.	65–80	1/18	3.6
12 to 14 yrs.	80–90	1/12	5.4

Leigh and Belton (8) give Table V for dosage of morphine to be used as a preanesthetic medication.

The most constant effect of morphine is its analgesic action (13). However, it is a central nervous system depressant and the power of attention, perception and the will are effected most (13). Imagination and central motor reflexes are least affected (13). "The kidney comprises the chief route of excretion of morphine, only a small amount being excreted in the feces" (13). Morphine is usually given hypodermically and has a long duration of action which limits its usefulness for children in the dental office (17).

Discussion and Appraisal of Most Useful Drugs for Child Patient

A survey of the literature reveals that barbiturates, bromides and morphine may be used to premedicate children. Premedication is indicated for the nervous and highly apprehensive child, when procedures require a long period of time or when local anesthesia is indicated. Sedation is helpful both to the child and the dentist. Barbiturates are the most frequent choice for dental procedures. Almost any degree of depression from light sedation through deep hypnosis through selection of drug, dose and route of administration may be obtained. The short acting barbiturates, Pentobarbital Sodium (Nembutal) and Seconal Sodium, are suggested more often than the longer

acting barbiturates. However Pitzen (4) says that only the longer acting less toxic Phenobarbital should be used. Idiosyncrasies are rare and no serious after effects have been reported. Barbiturates should not be used in patients with goitre and where liver and kidney diseases exist caution should be exercised.

Bromides can be used to premedicate children for dental procedures. They are seldom recommended for that purpose because they are long acting drugs and to be effective must be given over a period of time prior to the appointment. Bromides are more subject to untoward effects than the barbiturates.

There is evidence that morphine may be used successfully for the premedication of children. This drug is given hypodermically 1 to 1½ hours prior to the operation and has a prolonged duration of action. These factors and the traditional prejudice against the use of morphine limit its desirability in the dental office.

Summary

A survey of the literature on barbiturates, bromides and morphine indicates that the barbiturates are the drugs most useful for the premedication of children for dental procedures. They are shorter acting than the bromides or morphine, have less untoward effects than the bromides and may be administered orally while morphine must be given hypodermically. No serious after-effects have been reported following their use. Almost any degree of sedation can be obtained. When premedication is indicated for the nervous, apprehensive child sedation is helpful both to the child and the dentist.

Conclusion

Of the drugs surveyed the barbiturates are the drugs of choice for the premedication of children for dental procedures. "Unfortunately the ideal oral narcotic for the young child is still to be found. We require some drug which is tasteless, odorless, safe and rapidly absorbed" (19). The ideal drug should meet these qualifications: rapid onset, short duration, no side reactions (17).

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Castings for the Preschool Child

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FOR BROKEN down primary teeth whose pulps are vital and unexposed to caries, and where it is next to impossible because of the lack of tooth structure to use amalgam, a full crown restoration is required. Because the cast crown is much more exact and therefore less injurious to the gingival tissues than the preformed crown, a cast restoration is recommended. Even where the operator has attained a fair degree of skill in adapting a "shell" crown to a primary tooth, upon cementation there is the likelihood that the pressure applied in seating the "shell" crown will place it incorrectly on the tooth and therefore cause it to be a source of gingival irritation. This may occur even though a hole has been made in the crown for the escape of surplus cement. However, with the use of grooves in the tooth preparation the cast crown can be seated most accurately.

Furthermore, because the primary teeth are short, the shell crown lacks the retentive quality that can be imparted to a cast restoration. In fact, the shell crown in too many cases depends on retention below the gingiva which can cause periodontal disorder. Moreover, because of the sticky candy which children are prone to chew, the preformed crown is readily loosened and lost, whereas with the previously mentioned grooves in the prepared tooth a cast crown can be retained for years, until the tooth is normally shed. In addition, better contact, contour, and occlusion are more readily obtained with the cast crown (Figs. 1, 2, 3).

Where a tooth is badly broken down, usually the remaining teeth in that quadrant are also carious and therefore can be restored simultaneously with castings, thereby reducing the time and cost of operative dentistry for children. Moreover, where teeth are prepared for castings there is less cutting of tooth material and therefore less chance that the relatively large pulps will be involved; a minimum number of steel burs which children dislike are employed; and less energy and time are used by the operator in overcoming the saliva-drenched condition of the primary teeth.

Furthermore, the laboratory work required is so simple that any conscientious dentist can easily fabricate good fitting castings. By working in the laboratory during cancelled appointments, between appointments, while waiting for the cementation of an inlay, during the application of sodium fluoride, etc., the dentist can profitably use his spare time. His office routine need in no way be disturbed, nor should he have to work after hours, since he can be working at the chair while a poured model is hardening or during the burning out of a wax-up.

However, in doing laboratory work adequate facilities are necessary. Too many dental offices have barely more than a closet which is used for a dark room as well as a laboratory. Obviously, this type of arrangement can hardly be a breeding place of good dentistry. The

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dental office should include a fairly large laboratory which should be properly lighted and well ventilated as well as neatly arranged so that the dentist is comfortable while working. It should be equipped with a lathe, engine, and handpiece, and a sturdy work bench. With this type of arrangement he is more apt to improve in skill as well as professional outlook.

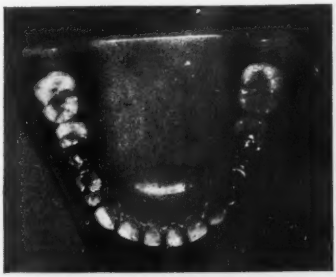

FIG. 1. Model showing types of castings recommended.

FIG. 2. Example of rampant caries where cast restorations are indicated.

Where the contacts between the teeth have been lost due to caries and there has been a mesial drift and therefore a crowding of the posterior teeth, separation is accomplished by means of the brass ligature (26 gauge) inserted interproximally and bent over the marginal ridges. The ends are turned clockwise until the small patient says the wires feel tight, then the ends are cut leaving a 3 mm. stump which is tucked into the gingiva where it will not irritate the cheek. Within 24 hours the ligature will cause separation.

Where there is mesial and distal caries, the tooth is completely covered with a cast crown. This eliminates to a considerable degree the possibility of recurrence of caries due to the decrease of the marginal areas. Where proximal caries is deep, all decay should be removed, the cavity sterilized with phenol, and then filled with cement or quick-setting zinc oxide and eugenol paste.

FIG. 3. Castings six months after their placement in the mouth.

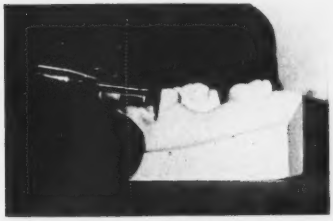

FIG. 4. Use of the knife-edge stone for proximal slices and grooves. The latter are extended to the gingival for maximum retention of the castings.

Then with a moistened knife-edge stone ($\frac{1}{2}$ inch in diameter), starting on the marginal ridge of the surface in-

volved, a slice is made to just below the interproximal gingiva. In order to decrease the number of steps, all the teeth that have carious lesions proximally are sliced in the same manner. Using the same instrument, grooves extending from the buccal marginal gingiva up to the occlusal surface, continuing across the occlusal to the lingual surface, and down the lingual surface to the lingual marginal gingiva are cut through the enamel into the dentin. Where a tooth has but one proximal surface that is carious, the bucco-occlusal-lingual grooves and the proximal slices are joined by occlusal grooves for inlay preparation. For the cuspid, the distal portion is bevelled from the labial and lingual grooves to the proximal slice for inlay preparation. Where the cast crown will be made, with a moist mounted diamond-shaped stone the occlusal surface is reduced as well as the buccal and lingual bulges so that there are no undercuts on these axial surfaces.

Then with a No. 701 bur all the grooves are sharpened. Please note the small number of instruments employed and the simplicity of the steps in making the preparations in the quadrant from the primary cuspid to the second primary molar.

Certain trade names are mentioned solely for the purpose of saving time and expense for those who are interested in the use of materials and apparatus of proved value. Kerr's No. 1 and 2 compounds are recommended because they have proved reliable during years of clinical experience. Compound can be used as an impression material because the primary teeth are short and relatively free of undercuts. However, although compression can be obtained with compound, this material will not push hyperplastic gingiva out of a cavity or away from a slice preparation. Instead, silver nitrate should be applied and the gingival tissue excised or preferably S.S. White gutta percha is packed between the teeth and the patient dismissed. At the next visit, the pressure of the temporary stopping will have caused sufficient gingival recession.

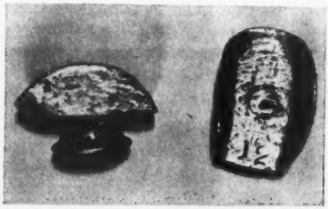

FIG. 5. Willet trays are recommended for better control and greater accuracy in making the compound imprints.

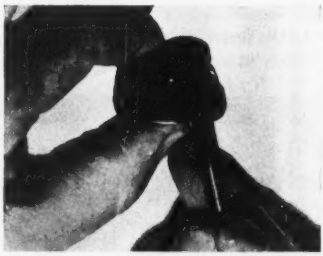

FIG. 6. Rebasing the impression. Immediately after dripping the green compound into the imprints of the prepared teeth, the tray is reseated in the mouth. The lower fusing compound will not burn or hurt the child.

The Willett tray is recommended because the handle helps in seating the compound with thumb pressure and aids in the proper withdrawal of the impression. The tray should be sufficiently large so as to hold enough compound to include at least one tooth mesial to the prepared teeth. The tray is filled with impression compound that has been

softened in hot water (155° F.); then the surface of the compound is flamed and tempered in the hot water. The compound is seated in the mouth including one tooth mesial to the prepared teeth. Now chill with cold water and remove by means of the handle parallel to the preparations avoiding torsion. Frequently, upon examination this initial impression may appear satisfactory but it should not be considered complete. In order to obtain greater detail, Kerr's No. 2 green stick compound is heated over a Bunsen burner until it flows and then it is dripped into the imprints of the prepared teeth and the tray is immediately reseated over the preparations with thumb pressure, chilled, and removed.

In checking the rebased impression for accuracy, it is suggested that the gingival outline and grooves are examined. If these are not sharp in detail, the impression can be again rebased with the lower fusing compound. It is also suggested that two impressions be taken of each case. Later the better model can be chosen for waxing.

Next, the investment model is made with Cristobalite model investment. With the thumb and forefinger boxing the impression, a thick mix is vibrated from one corner of the moistened impression until the teeth are filled and then the impression is gently tapped on the bench to liberate any bubbles that might have been trapped. Following this, the remaining investment material is blotted to a putty-like consistency in a towel and vibrated into the impression. This will furnish a hard, dense, accurate model when the investment material sets in twenty-five minutes.

Under hot tap water, the model is carefully separated. Where pieces of compound remain between the teeth or in the grooves, it is not advisable to remove them with a sharp instrument. Instead, the model is reimmersed in the hot water and then some of the used red compound that has been resoftened in the hot water is placed against the retained fragments. When withdrawn, the red compound will remove the fragments without flaking the model.

FIG. 7. After the prepared teeth have been split apart and waxed up, the model is reassembled to test the contacts of the patterns.

FIG. 8. Restored quadrant of a child's mouth. Defective or lost restorations, devitalizations, abscesses, and drifting of teeth are prevented with this type of work.

Now the model is split so that the prepared teeth are separated. This is done by means of a Joe Dandy disk cutting a groove all around the model in line with the interproximal areas to about a depth of 2 mm. just to but not into the interproximal areas. Then the model is carefully split with finger pressure.

Using inlay wax the teeth with inlay preparations are restored. Over the full crown preparation two layers of Kerr's soft green wax (No. 28 gauge) are laid down. Then contact and contour are completed with inlay wax. Now the contacts of the waxed up teeth are tested by reassembling the model.

When the wax-up is completed, excess investment is cut away, short thick sprues are attached with wells, and the individual teeth of the models reinvested in an inlay ring for wax elimination and casting.

After polishing the inner surfaces with a black bristle brush and pumice, the castings are examined for bubbles with a magnifying glass and all bubbles are eliminated with a small round bur. Little or no grinding is required for the external surfaces of the castings if the original anatomy of the prepared teeth is restored carefully. This work can be done on the rejected model.

At the next visit the roughly polished inlays are finished and polished on the teeth. The crown is polished on the lathe. Then the castings are cemented in the child's mouth.

Summary

Castings are recommended for very young children whose teeth are too severely broken down for amalgam restorations. A technic for restoring two or more teeth simultaneously is here described that is simple and practical as well as economical.

299 Clinton Avenue

References

1. Willett, R. C.: "An Improved Operative Technique for Deciduous Molars," Dental Items of Interest, **53**: 489–496 (July) 1931.
2. Department of Pedodontics, New York University Dental School: "A Modified Cast Gold Inlay for Deciduous Teeth." Unpublished.

The Directory of Members will include only those whose dues are paid for 1952. Get your check into your Unit or to the Executive Secretary *now!*

Dues for your Unit and the A. S. D. C. are due now. Write that check before you forget!

Doctor, Do You Teach?

D. George Ursini
New York, New York

OVER three years ago I spent a year, sifting in detail and compiling the salient data on dental decay. About three hundred articles were studied,—domestic and international,—and these were presented in layman's language to my patients in booklets.* It was perhaps not too arduous a labor for me, because teaching was long ago ingrained in me when I instructed in dental school and clinic, but more particularly because there was the incentive of meeting the need of *factual* information by the public. I looked for no rewards—except to help my patients—but I have been amazed by the warm enrichments that followed! Let me tell you.

(1) Patients said (and say) they were gratified to get a complete story—and unsensational!—of *all* the facets of dental decay, with no false emphasis on various treatments and causes. I had covered, you see, heredity, pregnancy, post-pregnancy, effects of infantile and childhood diseases, results of nervousness and glandular disease, diet-choice, method of proper mouth hygiene and care, special problems in childhood, adolescense, early adulthood and later in the menopause and its male equivalent. I particularly stressed the role of refined and over-concentrated natural sugar in the diet as most authorities view it to-day, and the apparent aids from fluorine, and possibly ammonia and penicillin; also the occasional need and benefits of orthodontics and tooth restorations; care with the use of certain medicines; the need of careful vitamin therapy; also the psychological approach to disease and treatment by the dentist.

(2) Patients have realized more fully the enormous breadth and responsibility of our profession, and their respect for dentistry and its members has increased incredibly—and my patients are generally the intelligent, discerning, and better-circumstanced! Some have taken the initiative to express their unsolicited warm feelings to their friends, and specialists, who contacted me later.

(3) Some of my patients have started discussion groups at Parent-Teacher's Associations after reading my article.

(4) I sent some complimentary copies of my paper to researchers at foremost institutions of learning and treatment to find myself the happy recipient of many letters of favorable comment and gratitude for furthering their objectives.

(5) In writing my paper I consulted some authorities personally or by correspondence and cordial relations have resulted in this satisfying manner.

(6) There has always existed an easy, friendly atmosphere in my office. It is even more cordial now, with even deeper signs of co-operation and gratitude. Many of my clientele now feel that all their questions have been answered *at their leisure, at home.* A few patients confided that they used to hesitate to intrude all their questions (or problems)

* Checked and approved for scientific accuracy and publication by the Dental Information Bureau (N.Y.C.).

on my operating time, feeling it an imposition. Many acknowledge the possible advantages to them financially.

(7) Of course, a minority (about 10–15 per cent) have not heeded my article in fact, but no doubt they are nonetheless grateful in spirit. I hope to convert them fully!

I now conclude. This was written to encourage fellow-dentists the country over to write instructions for their patients. Surely there are enough sides of dentistry to write about: the need of periodontic treatment, restorations by artificial means, psychosomatic medicodentistry, allergies, the use of the antibiotics, etc. etc. There are enough potential questions the patient would like answered! We have no right to be brief and brusk: as "doctors" (since the word means "teacher") let us *teach* at a time when our nation, as the world, needs the maximum of *all* help possible.

As I re-read my article I realize, at times, its earnest enthusiasm,—I have not written to preach, but to enlist my fellow practitioners in a joy and pleasure that came to me. In deepest truth, I stand almost in awe before the gracious kindness and gratitude of my patients and before the generosity of some of the great members of my profession.

NOTICE

Official A.S.D.C. headquarters at St. Louis, September 6 and 7, 1952, will be the Melbourne Hotel, near official A.D.A. headquarters. Since hotel accommodations in St. Louis are very limited, we suggest you *attach the coupon below to the reservation you send in to the A.D.A.*, so that you may be sure of being housed at our own hotel headquarters.

I am a member of the American Society of Dentistry for Children and desire to be housed at the Melbourne Hotel.

Signed.....

Your Journal plans to publish a Directory of Members this year. Pay your dues now to be sure you receive it.

TWENTIETH ANNUAL MEETING
AMERICAN SOCIETY OF DENTISTRY FOR CHILDREN
WASHINGTON, D. C.

October 12, 13, and 14, 1951

THE WILLARD HOTEL

Editor's Note:

We are printing herewith the complete minutes of our last meeting to acquaint those of you who were unable to attend, with the activities of our Society and its officers. This record has not been edited.

A.E.S.

MINUTES OF THE EXECUTIVE COUNCIL MEETING

October 12

A meeting of the Executive Council of the American Society of Dentistry for Children was held Friday, October 12 at 8:00 P.M. in the Fairfax Room of The Willard Hotel—Washington, D. C. President Hugo Kulstad presiding.

Executive Councilmen present—Drs. Kulstad, Lampshire, Teuscher, Keenan, Seyler, Taub, Jennings, Burdge and Hunnicutt.

The meeting opened with the reading of the 1950 Executive Council minutes. They were approved as read on motion by Dr. W. James Taub, seconded by Willard T. Hunnicutt, and unanimously carried.

Dr. George W. Teuscher occupied the Chair and Dr. Hugo Kulstad presented his Presidential Report, and it was accepted upon motion of Dr. Taub, seconded by Dr. Jennings. A committee composed of Dr. Hunnicutt, Chairman, Drs. Burdge and Klein was appointed to study and act on the President's report.

Dr. Keenan presented the Secretary-Treasurer's report for the year 1951, with the financial report. Dr. Teuscher motioned and Dr. Taub seconded that the report be accepted. The motion was unanimously carried. Dr. Kulstad appointed a committee of Dr. John Tocchini, Chairman, Drs. Sidney Kohn and Dr. Regina David to act on the Secretary's report.

Dr. Taub moved and Dr. Burdge seconded the motion that the Treasurer's report be submitted to a committee appointed by the Chairman. Dr. Kulstad appointed Dr. G. A. C. Jennings and Dr. George W. Teuscher to serve as a committee to consider the recommendations made by the Executive Council in connection with the report.

Dr. Alfred E. Seyler reported on the year's activities as Editor, and after the reading of the report Dr. Kulstad, as President, praised the work which had been done and the achievements of Dr. Seyler. Dr. Taub moved and Dr. Jen-

nings seconded that the Editor's report be accepted as read, and the motion was unanimously carried.

Dr. Harold Klein presented the report of the Editorial and Publications Committee, and after the presentation of the Report, demonstrated by visual method the accomplishments of the Managerial Service in connection with the Society of American Bacteriologists whom the Williams & Wilkins Company also serve. Dr. Taub moved, and Dr. Teuscher seconded the motion that a committee be appointed to study the report of Dr. Klein and make recommendations. Dr. Willard T. Hunnicutt and Dr. Alfred E. Seyler were appointed to work with the Constitution and By-Laws committee, chairman of which is Dr. Samuel Harris.

Dr. Ralph Ireland, Treasurer of the American Board of Pedodontics, presented the Report of the Treasurer, and separately his report as Secretary of the American Board of Pedodontics. Dr. Teuscher moved and Dr. Jennings seconded the motion that the report be accepted as read. Dr. Taub procured permission to discuss the report and asked whether the Board felt financially able to refund to the American Society of Dentistry for Children funds which had been advanced to it. The answer given was no. The question was then raised in connection with the report—"why not more than one examination a year?" The answer given was that there was only one given each year. Dr. Ireland outlined the work and expense entailed by examinations and said the Board was trying to give candidates in all parts of the country an opportunity to present themselves for examination.

Dr. Lampshire suggested that the Board of Pedodontics Report be published in the Journal of the Society of Dentistry for Children, and his motion was accepted.

The following committees then reported:

a. Membership and State Units—Dr. Earl L. Lampshire. The report as read was enlarged upon and elucidated by the reading of, and passing for scrutiny, a detailed questionnaire which had been sent out to procure information for the furtherance of the work of this committee. Dr. Jennings moved and Dr. Burdge seconded the motion that the report be accepted and filed. Dr. Taub commended the committee for its activities, as did Dr. Keenan. Drs. Burdge and Taub were appointed by Dr. Kulstad as a committee to study and make recommendations on the Membership and State Units Report.

b. Public Relations and Publicity—Dr. J. M. Wisan. The report was accepted as read on motion of Dr. Taub, seconded by Dr. Lampshire, and unanimously carried. Drs. Burdge and Taub were appointed by Dr. Kulstad to study the report and make recommendations.

c. Professional Relations—Dr. Elsie Schildwachter. Due to illness Dr. Schildwachter was unable to be present and present the report which she had prepared and it had not yet been received. Recommendation was made that the report be copied and sent to the members of the Executive Council, which has been done, and that a Committee of Drs. Burdge and Taub consider the report and make recommendations.

d. Schools and Dental Boards Report—Dr. Frank F. Lamons. The report was opened by quoting the duties of the Committee as outlined in the By-Laws and Constitution, Article 4, and was then presented fully. Dr. Lampshire moved and Dr. Taub seconded the motion that the report be accepted as submitted and the motion was unanimously carried. Dr. Seyler recommended that the report

be brought up and discussed at a later meeting.

e. Community Dental Programs—Dr. Walter J. Pelton. The report was accepted as read with recommendation for discussion in connection with the American Society of Dentistry for Children functioning in establishing an active program. Dr. Kulstad suggested that the report be discussed at a later meeting with the State Unit Secretaries. Dr. Wisan offered a recommendation to combine the community dental discussion with the Public Relations Program and the recommendations therefrom decided upon as a basis for publicity programs.

f. Local Arrangements Committee—Dr. Ostow spoke of the efforts the committee had expended in preparing for the meeting, and Dr. Lampshire motioned, with Dr. Taub seconding the motion, to accept with thanks the report of the Arrangements Committee. The motion was unanimously carried.

g. Program Committee—Dr. Morris Kelner. Dr. Kelner presented the report of the activities of the committee and their accomplishments. Dr. Teuscher motioned, and Dr. Taub seconded the motion, that the report be accepted as read. The motion was unaimously carried. President Kulstad appointed a committee of Drs. Burdge and Taub to consider recommendations made in the report.

h. Constitution and By-Laws—Dr. Samuel Harris. A study of the Constitution and By-laws was made and amendments suggested in this report. Dr. Seyler motioned and Dr. Hunnicutt seconded the motion that the report as submitted, be held for discussion at a later meeting of the Council.

OLD BUSINESS

Mr. F. C. Harwood, Business Manager, made a report on the activities of the Business Office in its first year of operation, stating that it had operated at a loss. Dr. Keenan read a letter he had received from Mr. Harwood indicating that renewal of contract would be subject to the charge of $1.25 per subscriber rather than $1.00 previously agreed upon, for the first year of operation. After discussion Dr. Seyler moved and Dr. Lampshire seconded the motion to renew the contract with The Williams & Wilkins Company for another year—December 1, 1951—November 30, 1952. Dr. Addelston suggested that the officers of the Society should study the renewal and give a report to the Council. Dr. Taub moved and Dr. Hunnicutt seconded the motion to report to the Council on the renewal of the contract. Dr. Lampshire commended the work done by the Managerial Service and recommended renewal of the service. Dr. Kulstad appointed a committee to discuss the renewal—Dr. Hunnicutt, Chairman, Dr. Burdge and Dr. Klein. Dr. Hunnicutt as chairman of this committee requested that additional members be appointed to his committee and Drs. Keenan, Lampshire and Seyler were added.

Dr. Keenan reported on correspondence with the Treasury Department and recommended that we file a report at the end of the fiscal year. Dr. Keenan moved that the matter be left in the hands of the attorney whom he had previously consulted as authorized by President Kulstad. He stated that although we would not be liable to income tax as a non-profit organization, we would be required to file annual reports. Dr. Taub seconded this motion, and it was unanimously passed.

Dr. Seyler moved and Dr. Jennings seconded a motion that the President appoint an editorial committee to serve with the Editor for the coming year.

The motion was passed and the Committee is to be appointed.

Dr. Taub moved and Dr. Hunnicutt seconded a motion that the Council award an expense account of $500.00 to the President and that the change be made in the Constitution and By-Laws for future presidents. Dr. Seyler objected. Dr. Kulstad voiced the opinion that the amount was too high. After discussion it was agreed that an expense account be set up for the President by the Budget Committee. Dr. Lampshire motioned that the President be allowed $200.00 expense account plus an amount set aside for additional expenses. Dr. Teuscher seconded this motion, and it was then proposed that the expense account be set at $300.00 for the President for 1951, with revision of this to be considered and made if found necessary in the future.

Dr. Taub made and Dr. Lampshire seconded a motion that the Editor be instructed to publish a list of committee members and all state officers in each issue of the Journal. After discussion it was determined that this would be an added expense in the printing and Dr. Keenan suggested that a list of all officers of the Society be published, together with committees and their chairmen. Dr. Taub accepted the proposal that the Society publish the Chairman of the committees and the motion was passed.

Dr. Seyler asked that he be supplied with this information by the President. The motion was seconded by Dr. Lampshire and carried—to consider this as part of the material for publication in each issue of the Journal.

New Business

The subject of free subscriptions to the Shriner's Hospitals was brought up and discussed. Dr. Lampshire moved that the Society discontinue the practice. The motion was seconded by Dr. Hunnicutt and unanimously carried.

It was also suggested that the editor routinely check over all gratis subscriptions to the Journal.

Dr. Lampshire queried the sending of quarterly reports by the President to the Executive Council members. Dr. Kulstad approved of continuing to publish the President's message in each issue.

Dr. Taub questioned the necessity and importance of printing the panel discussions in the Journal immediately after the meeting and it was decided, after discussion, that this should not be done.

Dr. Burdge moved and Dr. Hunnicutt seconded a motion that Dr. Seyler be reelected as Editor for another year. The motion was unanimously carried and Dr. Seyler accepted the appointment.

Dr. Lampshire commended President Kulstad for having complete reports from the chairmen of his committees.

There being no further business to be discussed at this meeting it did, on motion, adjourn at 12:00 midnight.

MINUTES OF THE MEETING OF THE EXECUTIVE COUNCIL AND STATE UNIT DELEGATES OF THE AMERICAN SOCIETY OF DENTISTRY FOR CHILDREN

Saturday, October 13, 1951

Fairfax Room

9:30 A.M.–12:00 Noon

Dr. Lampshire opened the meeting by welcoming the delegates and their alternates and the secretaries, and explained that the meeting was called in conformity with the Constitution to discuss matters relating to the Council and the Delegates.

The meeting began with a report by Mr. Harwood in which he explained the Williams & Wilkins Managerial Service in connection with the Society. He mentioned that not all state unit secretaries had complied with the request of the Managerial Service to conform to the established routine for submitting subscriptions, and he was instructed to make a further solicitation in order to have all secretaries follow the routine. Dr. Lampshire read a list of those who had adopted the new system and of those who had not. Dr. Keenan suggested that the secretaries of the state units be elected for two years, and that there be an Executive Secretary. Mr. Harwood answered specific questions, directed by those secretaries who were present, in connection with the routine of The Williams & Wilkins Company. Several of the secretaries commended Mr. Harwood on the workability of the system.

Dr. M. Edward Coberth, President of the Maryland State Unit brought up for discussion the matter of admitting negro dentists into the Maryland unit. Dr. Harold A. Eskew, President of the District of Columbia Unit discussed the subject and suggested that an amendment of Article III Section 2 of the Constitution be put up to and voted on at the next general meeting. He suggested that we go on record as recommending to the Society that an amendment to the Constitution be made and be voted on at the next general meeting. The amendment is: that Article III Section 2 be changed to read "that active membership in the American Society of Dentistry for Children is open to members of the American and Canadian Associations." Dr. Eskew then suggested to the Executive Council that it be put to a vote and that the amendment be "active membership in the Society is open to members of any American and Canadian Dental Associations." Dr. Coberth motioned and Dr. Rose seconded the motion that membership should be limited to those societies recognized by the American Dental Association. Dr. Hogeboom stated that the Constitution as written is satisfactory. Dr. Higue made the motion that the amendment read "any dental association recognized by the Executive Council of the American Society of Dentistry for Children." Dr. Bliss seconded the motion. It was mentioned that the Philippines and Mexico are to organize units which will become members of the Society. Dr. Taub suggested an amendment that "nobody be barred from membership because of color or creed." Dr. Higue opposed the second amendment. Dr. Klein of Nebraska asked "how the amendment would affect the standing of the American Society of Dentistry for

Children with the American Dental Association. Dr. Keenan suggested that Article III Section 2 covered the situation without amendment. It was discussed and decided that the American Society of Dentistry for Children confer with the American Dental Association on the subject.

Dr. Vincent of Virginia asked whether the National Dental Society is recognized by the American Dental Association and whether the Mexican Society is recognized by the American Dental Association. Dr. Obst stated that the National Dental Society is recognized by the American Dental Association.

Motion to amend the Article III Section 2 to the following was carried unanimously: "That active membership in the Society is open to members of any American and Canadian Dental Associations and any dental association recognized by the Executive Council of the American Society of Dentistry for Children."

Dr. Bliss of Rhode Island asked whether bills will be sent out by the Managerial Service and was informed that the original billings would be addressed by the Service and sent to the various State Unit Secretaries for completion. Follow-up billings would be handled by the Unit Secretaries.

Dr. Weber of New Jersey asked whether men going into the Services would continue to be active members excused from dues. It was determined that the matter of state unit dues would be at the discretion of each State Unit, but that the By-Laws and Constitution of the National Society did not permit free membership. Dr. Higue of California suggested that the elimination of state dues be made but that the Office of the Business Manager be not disturbed in its routine.

Dr. Taub called for the reading of a report of the number of State Unit Members both paid and unpaid and this was done by Dr. Lampshire from a report provided by the Business Office.

Dr. Edward Cherkas of Pennsylvania asked how to increase membership in his State Unit, and was informed that the drives for increased membership was up to each state unit.

Dr. Cohen of Massachusetts asked for reconsideration of issuance of certificates (for hanging in offices) to members, and suggested that the subject be discussed and that the state units be authorized by the present assembly to issue certificates showing membership. Dr. Cherkas seconded the motion. Dr. Tocchini of Northern California suggested that membership may be dropped and that the certificate would still be in the possession of the recipient. Dr. Winter of Pennsylvania suggested that a sticker for use on office doors be issued instead of a certificate and Dr. Higue suggested that the issuance of a certificate in any form be entirely to the discretion of each individual state unit. Dr. Miller of Ohio mentioned that the practice was discontinued years ago in their unit on account of unsatisfactory situations. Dr. Cherkas motioned that a resolution be made to the Executive Council in general assembly requesting that the policy of issuance of certificates be made to members reactivated. The motion was defeated.

Dr. Sam Harris introduced a guest—Dr. Carlos Criner, President of the Cuban Society, and he made a short address giving the present status and activities program of his Society.

Dr. Taub motioned that amendment of Article IV Section 5 of the Constitution be made concerning joint meetings

of the Executive Council with the Delegates. Dr. Higue dissented. Dr. Seyler stated that this meeting had no status to vote on such an article. Consideration of this article was ruled out of order.

Dr. Lampshire turned the meeting over to Dr. Teuscher while, he, Dr. Lampshire, presented the results of a questionnaire which he had prepared which gave a resume of ideas presented by state unit members.

At this point Dr. Higue suggested that a slogan should be adopted to help increase membership and that a suggested one would be "Make the A S D C your Youth Activity."

On motion made and seconded the meeting adjourned at 12:00 noon.

MINUTES OF THE GENERAL BUSINESS MEETING—

President Hugo Kulstad, Presiding

Sunday, October 14
2:00 P.M.–6:45 P.M.

Crystal Room

President Hugo Kulstad opened the meeting by welcoming all members, delegates, alternates and visitors and announced that a change would be made in the order of the proposed agenda for the meeting.

Dr. Keenan, Secretary-Treasurer, read the minutes of the meeting of 1950 in Atlantic City and they were approved as read, on motion of Dr. Kelner seconded by Dr. Kelsten.

Dr. Keenan then read the high lights of the meeting of the Executive Council held on October 12, 1951.

UNDER REPORTS OF COMMITTEES:

1. Dr. Lampshire gave a detailed report on the State Unit and Membership Committee's activities during the past year.
2. Dr. Ralph Ireland presented a full and detailed report on the activities of the American Board of Pedodontics and the report of the audit made by the Certified Public Accountants—Miller and Moore.

   Dr. Ireland then addressed the chair in the matter of the present status and standing of the American Board of Pedodontics. He stated that it seemed to him that the Board had accomplished much in the past few years, but that there was a feeling the board had not received full co-operation in many instances and felt that it would be a good opportunity to clear the air. He further stated that the Board had nothing to hide and operated open and above board. Dr. Higue of California stated that this is one of the finest meetings he had the privilege of attending and that he enjoyed the fellowship and spirit, but through it all there seemed to be a chill that hung over the meeting—criticism of the Board. He stated that this may possibly be the only meeting this year of the Board with the Parent Body, and he would like to go back to California and feel that something is done on a constructive basis, if there is a basis for some of the criticisms that have been made against the Board. "It

seemed logical and just inasmuch as we are all interested primarily in dentistry for children that this meeting seemed to be the place to determine the basis for the whisperings in corners outside the Parent Body meeting. If there is any basis for any of this it should now be brought to light and an attempt made to come to some decision."

Dr. Greenwald of New Jersey stated that if only 59% passed the examination there is either something wrong with the examination or the men who come before it. He felt that a study of the whole thing should be made by a committee to find out what is wrong, and asked for the appointment of a committee. Dr. Ireland stated that he does not have comparative figures but had talked to Dr. Peterson on the percentages, and that when Mr. Moore was compiling the audit he asked him how the percentages compared with other figures he might have, and that he wanted to get his opinion because he wanted to give this in his report. Dr. Ireland was informed that it was a rather high percentage to pass the board, and that in his field (Mr. Moore—the Certified Public Accountants) the mortality was high. He Dr. Ireland stated "when we get a comparative report we will know and the figures will be included in our report."

Dr. Morgan of Wisconsin asked what is the object and the future plans of the Board,—assuming that 90% of 102 passed,—then what is the object of the whole thing. Dr. Ireland replied: I assume you are asking me what the purpose of the Board is. The purpose of the Board is as stated in the articles of incorporation. The purpose of the American Board of Pedodontics is to study and improve the practice and advance the cause of public health.

Dr. Rose of New Jersey asked "to what extent do you think the policies of the Board will be effected by the feelings of this organization?" Dr. Ireland replied, "we naturally have to be affected in the same way that a child's feelings would be affected by parents' attention toward them. I like to work in harmony with everyone; it is rather disconcerting to try to do a job as the Board has done since it organized in 1940, and I can assure you that every member has put in a considerable amount of time and work—for myself it is a bit discouraging to come to a meeting and hear the things I have heard at this time. It won't affect our examinations. We will still go on. Our examination will be on as high a plane as it was. We are not too discouraged about the situation but would like to clear it up."

Dr. Rose: "I am merely asking for information as regards the formulation of policy. Does the Executive Council dictate the policy? Does the Board formulate it?" Dr. Ireland: "We set up our policies by the standards of the American Dental Association and the Council on Dental Education. We have the power to formulate our own policy regarding the examination and set up examinations as we see fit, according to the articles of incorporation.

Dr. Ostrow of the District of Columbia: "Just as a point of information. Who is qualified to be on the Board?"

Dr. Ireland: "At the present time if you have been in practice for 10

years prior to January 1, 1951, and during the 10 years the major portion or 50% of your practice has been confined to dentistry for children you have complied with the requirement. If you meet this requirement you do not have to satisfy the educational requirements. You write me for application blank; I send it and you return it to me, and I pass on it unless it is a case that I do not wish to make decision on. It is referred to a committee of two. In the event you do not come under that requirement you must satisfy the educational requirements according to Section 2 A and B of Requirements for Certification."—Dr. Ireland then read the requirements.

Dr. Jennings of Tennessee complimented the board on their accomplishments stating that he thought we have a fine Board. Dr. Heber of New Jersey moved that the report of the board be received and filed. The Chair thanked Dr. Ireland for his report.

3. Report of Committee on the President's Report. This committee was composed of Dr. Hunnicutt, chairman, Dr. Burdge and Dr. Klein. The committee complimented President Kulstad on his thorough and constructive effort and the results of these efforts during his term of office, and stated that they had accepted his recommendations item by item.

Item 1.

They recommended under the Job Analysis items that the committee structures be very carefully analyzed through a study of the reports of the past three years, and that any committee that does not have a job to do should be dropped. This has been done by the Committee on Constitution and By-Laws.

Item 2.

Because there are times when the American Society of Dentistry for Children needs to send out an official representative we believe it advisable to have a travel formula established, but inasmuch as this has not been previously followed it would be impossible to set an arbitrary figure. The formula would be contingent upon the funds available at the time, and we recommend that the item be referred to the Budget Committee.

Item 3.

There are times when decisions of great importance to the Society must be made between meetings, and recommendation was made that facilities be established to make mail votes and establish the percentage of votes necessary to act. The committee felt that the Executive Council is vested with authority between meetings and when the expenses and necessary amount of time and work are considered to canvass the membership it would not be justified.

Item 4.

The executive secretary. "I am not at all convinced that the Business Managerial Service now being used fills the bill; as President I have received no assistance—it serves to assist the Secretary-Treasurer. The type of help I have thought of would be personal service to all officers and also service to the Committees." The committee felt that the correction of the problem lies in a careful study and suggests that it be done through a carefully appointed committee, and further suggest an investigation be made of the require-

ments of Southern California and that this be used as a basis. Dr. Greenwald moved and Dr. Poggi seconded the motion that the recommendations be accepted and it was unanimously carried.

4. Report of Committee on Secretary-Treasurer's Report. The committee which consisted of Drs. Jennings and Teuscher recommended acceptance of the Report with two changes. The committee suggested that the additional duties mentioned pertaining to the Business Office be left to the discretion of the officers. The committee believes also that the recommendation of the purchase of additional war bonds be left to the Executive Council. Dr. Jennings moved the recommendations of the Committee be accepted and Dr. Seyler seconded. It was unanimously passed.
5. Report of the Educational and Publications Committee. The committee stated that the subjects discussed herein were covered by other reports and that this report be accepted as submitted. Dr. Hunnicutt motioned and Dr. Seyler seconded the motion which was unanimously carried.
6. Report of Committee on Constitution and By-Laws. The Committee proposed two changes in the Constitution. 1. Article III Section 2—we recommend the addition of "other dental organizations approved by the Executive Council", so that the Section would read "Active membership in the Society shall be limited to members of other dental organizations approved by the Executive Council". Section 5 of Article IV—The committee recommended the deletion of words "the Executive Council together with" so that it will read "there shall be a meeting of the delegates, etc." At this point the question was raised whether it was constitutional to alter the constitution by unanimous vote of members present and voting or necessary to call a meeting to consider the proposed changes. Dr. Addelston asked for information "Why is this change in the meeting suggested? Does it involve other changes in the operation of the Society. Are there other things which the Constitution and By-Laws call for in the meeting which would be altered by this change? The answer by Dr. Harris—"no".

Dr. Kronfield asked what result the proposed alteration would have concerning the election of members of the board, which will have to be elected by the Executive Council at the delegates meeting with the Council. "If you don't have the meeting how can they elect members of the board here?"

Dr. Rose said he would like to point out some misunderstanding of the agenda. It was stated that this would be a meeting of the Executive Council and the Delegates. Some delegates did not understand it was not an official meeting. Here Dr. Seyler asked to convey the idea that we could not conduct business at the combined meeting and that it was a waste of time. It is an informal meeting—no business can be transacted except that of recommendations to the Executive Council and the whole thing could be done in one session.

Article IV—Section 1. It was recommended that six members shall be elected for the Membership and State Unit Committee instead of five. In the same section the word

"Publicity" should be added after "Public Relations".

Article IV—Section 1 (4th paragraph). After the word "health" should be added "to stimulate and foster the award of grants to the Society" so that this would read: "To foster cooperation of Society and lay groups organized for the promotion of child health; to stimulate and foster the award of grants to the Society", etc.

Article IV Section 2. It was recommended that this should be changed to read: "There shall be an Editorial Board of three active members elected by the Executive Council, one for one year, one for two years, and one for three years, and thereafter one each year for three years which shall be the term of this office. This board shall act in an advisory capacity to the Editor of the Journal, and shall be responsible with the Editor for the editorial policies of the Journal. The Editorial Board shall act to gather material suitable for publication in the Journal of Dentistry for Children".

There shall be a Publication Commission of four active members elected by the Executive Council one for one year, one for two years, one for three years and one for four years and thereafter one each year for four years which shall be the term of this office. This commission shall be responsible to the Executive Council, and shall be responsible for the distribution of the Journal. They shall examine and recommend on its cost and shall establish the policy on advertisements suitable for insertion in the Journal, based upon standards set by the American Association of Dental Editors. This committee shall also establish the scale of cost of these advertisements. It shall be the responsibility of this committee to appoint a Business Manager whose function it will be to obtain advertisements and to recommend the enlargement or curtailment of the Journal or Journals. Upon approval of the Publication Committee contract for such services shall be negotiated by the President and Secretary.

Article VI—Section 4, second paragraph. It was recommended that this be changed to read—"he shall be responsible for the collection of all monies due the Society from its members and component Societies."

Article VI—Section 4—last paragraph—change word "honorarium" to "expense".

Dr. Harris moved that the recommendations be considered one at a time. The question was raised as to whether the proposed changes had to be published. It was agreed that by unanimous vote at this meeting the by-laws could be changed.

Referring to change in Article III Section 2 of the Constitution, Dr. Eskew of the District of Columbia stated that the proposed change in the wording is rather vague and would like to suggest that we change it to spell out the organizations that will be approved by the Executive council—membership in the Society shall be limited to American and Canadian Dental Associations and the National Dental Association. We would like to get a conference with officers of the American Dental Association. This was brought up by one or two state units that have had the question up to the Council and we are not sure what the intention of the Council is. We cannot say whether

we are opposed to this amendment unless we can have some commitment as to what the approved dental associations will be. If we can get that I would be in favor." Dr. Harris moved and Dr. Seyler seconded the motion that the change be made. The feeling of the members was 100% favorable with the inclusion of the "National Association". It was considered and discussed that there were other groups like the Cuban Society and the Mexican which might come in for inclusion and we left it broad so that the Executive Council could consider not only the National, but others. Dr. Taub moved the motion on the floor be tabled, Dr. Keller seconded and Dr. Rose asked whether the National Dental Association is a member of the American Dental Association. Dr. Taub withdrew his motion. Dr. Kelner moved that we accept the proposed change with one addition—inclusion of the word "National Dental Association" with other wording to remain the same. Dr Ireland asked "If this motion is passed will it in any way be in opposition to the American Dental Association, and was informed that anything we do must be in accordance with the American Dental Association. Should we find afterward it was not it would automatically be ruled out. Dr. Winter of Pennsylvania suggested that the matter be referred to the Judiciary Committee of the American Dental Association. Dr. Higue of California stated that in view of the fact that the present Executive Council declines to recognize the National Dental Association I would not support it. I ask that we accept the amendment as originally proposed. Dr. Ireland stated that thet American Dental Association has no recognized the National Dental Association. Mr. Mitchell stated that it it will require unanimous vote to change the constitution. Vote on the motion was then taken—motion on the amendment was lost.

Dr. Lampshire asked for unanimous vote on behalf of the State Unit Committee. At the present time we have requests for the Phillippine and Mexican groups to organize a unit. If this is defeated we must wait another year. If passed we can proceed to organize units in the Phillippines and Mexico which will be admitted to the American Society of Dentistry for Children. Although it may not solve the Canadian question it will allow us to proceed to invite these two units.

Article IV Section 5. Dr. Rose of New Jersey. "I would like to repeat that I think the session could be eliminated and leave it up to the Program committee to schedule the meeting. If there is to be a meeting of the delegates some good could come out of it other than casual exchange of views. It seems that our purpose would be served as well if this were not a scheduled meeting for delegates but an open one because the business of the organization is decided at this meeting. The Chair stated that it is necessary often for a meeting of the Executive Council to consider things that only the Executive Council can which must be referred to a Reference committee. The Constitution and By-Laws cannot be changed, as now, unless we have this kind of a body. I am in favor of the joint meeting." Dr.

Lampshire felt we needed to continue the meeting with the delegates. Dr. Rose felt that the delegates should know what they are meeting for, and the agenda for the next meeting be made for delegates to be present and participate in some of this work. These meetings have been changed from year to year. Dr. Taub suggested asking the delegates how many would attend such a meeting. Dr. Lamons stated that the meeting of the delegates and state unit secretaries is not a legislative body. It was written that the delegates are not a legislative body of the Society. The business meeting of this afternoon is a legislative body. The Executive Council is a legislative body between meetings. When you approve the action of the Executive Council in this meeting this afternoon then that becomes the official action of the Society. Upon motion made and seconded it was unanimously passed that no change be made in the wording of Article IV Section 5.

Referring further to recommendations of change in By-Laws: Article IV—Section 1.

Dr. House motioned and Dr. Jennings seconded the motion for adoption of suggested changes and the motion was unanimously passed.

Article IV—Section 2. Dr. Harris moved and Dr. David seconded the motion for adoption of changes, which was unanimously passed.

Article VI—Section 1. Dr. Harris moved and Dr. Weber seconded the motion for suggested changes—motion unanimously carried.

Article VI—Section 4. Paragraph 2. Dr. Harris moved and Dr. Hunnicutt seconded the motion which was unanimously carried.

Article VI—Section 4—Honorarium—motion dropped.

Article VI—Section 5—Dr. Harris moved and Dr. Greenwald seconded the motion—motion passed to delete Section 5.

Article VII—Section 5. Dr. Harris motioned and Dr. Lamons seconded motion to add "Services of the Executive Secretary shall be designated as those of the "Executive Secretary" whether it be an individual or a commercial firm."

7. Report of the Membership and State Units Committee. We recommended that we follow the recommendations of the committee. Dr. Taub motioned and Dr. Weber seconded that the recommendations be accepted. Unanimously passed.
8. Report of Public Relations and Publicity Committee—We are in accord with the recommendations of this committee that it prepare a statement for publication in the Journal of Dentistry for Children relative to a discussion of the techniques, with suggestions for our members, and projects that might be assumed by our State Units. We recommend that this committee be given authority to investigate the possibility for the publication and distribution of the Rhode Island State Unit's leaflet—"Pointers for Parents". The recommendations of this committee are commendable and to expedite their intent for State Unit assistance, we suggest that a written report by this committee of its activities, be made to the President within four months after the annual meeting, thereby complying with the requirement of Section

I Article IV of the By-Laws. Such procedure will enable the committee to develop its projects within the year, rather than await authorization to proceed in the following year. Dr. Kulstad motioned and Dr. Kelner seconded the motion that the recommendations be accepted and the motion was unanimously carried.

9. Report of the Professional Relations Committee. This report presents an outline of the procedures employed by twelve of our State Units in fostering and furthering better professional relations. The committee recommends that these outlines be printed in our Journal of Dentistry for Children as valuable reference source for all State units as well as for the parent body. Dr. Taub motioned and Dr. Tank seconded and the motion was unanimously passed.
10. Report of Schools and Dental Boards Committee. Dr. Lamons moved and Dr. Klein seconded the motion that the report of the Board be accepted as submitted and that the recommendations made be carried over for next year. The motion was unanimously passed.
11. Report of Community Dental Programs Committee. Dr. Pelton presented his original report and the Committee recommended that "Whereas the American Society of Dentistry for Children is concerned with the advancement of the public health and whereas the scientific achievement indicates that fluoridation of public water supplies and topical applications of NaF are effective measures for the partial control of dental caries—therefore, be it resolved that the American Society of Dentistry for Children endorses these procedures and actively promotes their use for the public's benefits. Be it further resolved that the American Society of Dentistry for Children take every step to also promote the extension of dental service to all children. Dr. Pelton moved and Dr. Seyler seconded the motion to accept the recommendations and the report and the motion was unanimously passed.
12. Report of Program Committee. This committee agrees with the Program Chairman that essayists and clinicians should be reimbursed for loss of office time, travel and hotel expenses. Nevertheless we feel that until such time as the American Society of Dentistry for Children may be more affluent it would be prudent to avail ourselves of the prevailing desire of much fine talent to appear on our program without financial consideration. However, cognizant of the Program Committee's dilemma in securing essayists and clinicians, we recommend that the budget committee give every consideration to the allocation of $1000.00 for program arrangement expense for the annual meeting. The committee further recommends that the Budget Committee be contacted and consulted. Dr. Hunnicutt moved and Dr. Tank seconded the motion that the recommendations of the committee be accepted and the motion was unanimously passed.

Dr. Seyler requested the Chair to procure information from the Government Facility concerning their action in connection with the specialty of Pedodontics, as the Society would like to go on record as promoting the welfare of its members in the Services.

Dr. Weber of New Jersey stated that "there seems to be a situation

where the specialty of pedodontics is not recognized by the Armed Services while all other specialties are. On the whole I think it should be the duty of the American Society of Dentistry for Children to see that recommendations are made that, as long as specialties of Orthodontics and Prosthetics are recognized, the specialty of Pedodontics be recognized. Are pedodontists in the Service given specialty number? Are those who have no specialty number classified as general dentists. It is the duty of the organization to see that changes are made.

Dr. Kulstad advised that in the Veterans Administration any man who has his certificate of the Board of Pedodontics is given the same specialty classification as any other specialty and receives an additional remuneration of $1000.00 a year in his allowance. He is recognized by the American Dental Association and is eligible and automatically classified in that class. It should follow that any specialty recognized by the American Dental Association should be recognized in any service. Dr. Rabinowitch moved that the matter be referred to the Council of the American Dental Association for proper procedure. Dr. Kelner seconded the motion, which was carried.

13. Report of the Auditing Committee—Dr. Tocchini, Chairman, reported that his committee consisting of Drs. David, and Kohn had examined the figures reported by the Secretary-Treasurer and the Managerial Service and found them in order. Dr. David moved and Dr. Tank seconded the motion that the report be accepted as submitted.

14. Report of the Nominating Committee. The committee consisting of Drs. Brauer, Chairman, Ireland and Taub, offered the following slate of candidates:

For President
Earl L. Lampshire of Nebraska
For President-Elect
George Teuscher of Illinois
For Vice-President
Hugh Keenan of New York
For Secretary-Treasurer
Henry Wilbur of Kentucky
For Member of the Exec. Council
Francis Summers of S. Calif.
to replace Henry M. Wilbur.

Dr. Rose motioned and Dr. Jennings seconded the motion to elect by ballot. The secretary was instructed to have votes cast for the nominees as a slate with the exception of the two members of the Council. By unanimous vote the officers were elected as nominated with the exception of the Member of the Executive Council.

The Chair appointed Dr. Greenberg as teller for Dr. Rabinowitch, Dr. Lamons as teller for Dr. Summers and Dr. Higue as teller for the Chair. (Vote was cast and of those present 56 were eligible to vote—31 for Rabinowitch and 25 for Summers). Dr. Bernard Z. Rabinowitch was elected to serve for two years).

Dr. Seyler was reelected as editor, by unanimous vote.

The Chair then asked for nomination and election of a member for the American Board of Pedodontics. Dr. Weber nominated Dr. Sidney Kohn; Dr. Demmerit nominated Dr. John Brauer; Dr. Chatterton nominated Dr. Zander, Dr. Lamons, nominated Dr. Hunnicutt.

Dr. Anderson of California asked for qualifications of men nominated for the Board and who was qualified to vote. He was informed that each delegate or his alternate may vote.

Dr. Ireland stated that the Council on Education of the American Dental Association does not look with favor on the method of electing members to the Board. "This is the only committee that you have that is elected in this way. Any other committee of the American Society of Dentistry for Children is appointed by the Executive Council. I can assure you that there is no present member of the Board of Pedodontics wanting to stay in officer longer than they have to, and if any of us are unfortunate enough to be elected you will know what I mean. Once the Board gets the footing that we would like to have you will see a wholesale recognition by members of the Board. It is difficult and too hard a job to do. Through his nominator (Dr. Lamons) Dr. Hunnicutt withdrew. Dr. Ireland reiterated that there was no personal feelings in the matter.

Following the casting of 39 votes, the number of those present eligible to vote, Dr. Brauer was elected by a vote of 20 to a vote of 19 for Dr. Kohn.

Old Business

Dr. Teuscher asked Dr. Kelner to read the proposal which The Williams & Wilkins Company had made in event of renewal of contract. After the reading it was stated that we are considering entering into a new contract with Williams & Wilkins instead of the one which existed for 1951.

Dr. Hunnicutt was chairman of a committee which had been appointed to discuss the renewal of the contract. The committee consisted of Dr. George Teuscher, Dr. Harold Klein, Dr. Alfred Seyler and Dr. Lawrence Burdge. Dr. Hunnicutt had asked that Dr. Earl Lampshire and Dr. Hugh Keenan also serve in advisory capacity as they were the individuals who had the closest transactions with the company during the year. Dr. Hunnicutt stated it was up to the committee to cross examine the company's representative, Mr. Harwood, and find out all they could concerning the workings of the company and whether we felt it would be a good thing to renew. The committee felt after discussion that the company has shown satisfactory results in the handling of the Journal for the year 1951, that the contract should be renewed at $1.25 per name. The committee further recommended that the contract be renewed on a two-year basis under the conditions that the American Society of Dentistry for Children accept the proposal of the Williams & Wilkins Company to handle the advertising of the Journal as set forth in a letter received from Mr. Harwood. The handling of the advertising would be covered by a separate contract. Mr. Harwood advised that he was authorized only to renew the Managerial Service contract for one year, but that the Advertising contract could be set up on a two year basis. He stated that there is a standard rate of $80.00 per page for advertising in a journal of this sort. The question came up as to how this advertising would be passed upon as to its worthiness for publication or use in the journal. The committee reported that it had consulted with Dr. Seyler and he said that this would be passed upon based on standards set up by the American Den-

tal Association and the American Association of Dental Editors, and that this would be the basis upon which the advertising would be handled by the Williams & Wilkins Company.

The Committee further recommended that the Section 4 of Article VI of the By-Laws be revised and the revision incorporated into the renewed contract. The revision would be in the wording—instead of "He shall collect all monies due the Society" it shall read: "The Secretary-Treasurer will be responsible for collection of all monies belonging to the Society" and shall handle all details as set forth in the contract.

Dr. Seyler moved the renewal of the contract for the Managerial Service with recommended alterations, and Dr. Greenwald seconded the motion. It was unanimously carried and the contract is to be renewed for one year—1952.

Dr. Seyler moved that a contract be made for the handling of the advertising to go into the Journal and that this be on the two-year basis. The motion was seconded by Dr. Hunnicutt and unanimously carried.

INSTALLATION OF OFFICERS

Dr. Kulstad, retiring President: To Dr. George Teuscher

I want to pass to you the job of President Elect which carries with it the responsibility of Chairman of the Membership and State Unit Committee and it is a tough job. I am sure Earl Lampshire will be happy, and helpful to you but we have prepared this year this book of instructions—a Manual of Operations which I hope will make your job easier.

Dr. Kulstad,—To Dr. Hugh Keenan, incoming Vice-President. You all know what a job Hugh has done. He took on the burden when we had no paid help whatever and took much time out of his office in order to take on the Secretary-Treasurer's job. You have elected him as Vice-President and we know he will do a good job. Good luck to you. Here's a Manual for you.

Dr. Wilbur, the newly elected Secretary-Treasurer was absent, but his Manual was mailed to him.

Dr. Kulstad—to Dr. Alfred Seyler—re-elected editor of the Journal. We could take a long time talking about Al (and all might not be good). (?)

Al, this is a little manual which we have tried to prepare for you. As I said to the officers at the meeting Friday, I hope this will be a start towards something that would have helped me. We know what your responsibilities were and your accomplishments. Keep up the good work.

Dr. Kulstad: We have also prepared a manual for the Executive Secretary and although that position at the present isn't part of our elected officer, I am sure for the benefit of the office serving, the Manual for the Executive Secretary will be of great help.

Dr. Kulstad to Dr. Lampshire—Earl, taking over this job is going to be a tough one. You have done a good job getting ready for it. You have worked hard as President Elect and you are well prepared. I know that this manual will help you, and it gives me a great deal of pleasure to turn over the gavel to you. Thank you very much.

Introduction of New Member.

As a newly elected Executive Council member I present Bernard Rabinowitch from the Southern California unit, and most of you know that Bernard has done a good job in Southern California. He is one of the real foundations.

Dr. Lampshire: I would like to express on behalf of the Officers and the Executive Council the appreciation for the effort which Dr. Kulstad has put forth in preparing the Manuals. It has been a big job—something we have looked forward to for years. We had hoped that someone would carry the ball for a touchdown. It represents a tremendous amount of work. In appreciation of your services during the past year we would like to present this engraved plaque. It has been inscribed—

To Hugo Kulstad—in appreciation of his services as President

1950–1951

Dr. Lampshire: It gives me a great deal of pleasure to have been selected to follow our former presidents. I hope that you will give me the continued splendid cooperation that you have given Hugo and I will do my best to continue the good work of my predecessors. It gives me pleasure to close this, our 20th annual business session.

Meeting adjourned at 6:45 P.M.

NOTICE

Official A.S.D.C. headquarters at St. Louis, September 6 and 7, 1952, will be the Melbourne Hotel, near official A.D.A. headquarters. Since hotel accomodations in St. Louis are very limited, we suggest you *attach the coupon below to the reservation you send in to the A.D.A.*, so that you may be sure of being housed at our own hotel headquarters.

I am a member of the American Society of Dentistry for Children and desire to be housed at the Melbourne Hotel.

Signed.....

American Society of Dentistry for Children
Silver Anniversary Meeting

MELBOURNE HOTEL—ST. LOUIS, MISSOURI
September 6 and 7, 1952

PROGRAM

Saturday, September 6, 9:00 a.m. to 11:30 a.m.
Colonial Room
Meeting of the State Unit Delegates
George W. Teuscher, President-Elect, Presiding

Saturday, September 6, 12 Noon
Alexander Room
President's Luncheon, honoring Essayists, Clinicians, and Committee Chairmen.

Greetings: Earl Bean, President of the Missouri Unit.
Address of Welcome: Earl L. Lampshire, President of the American Society of Dentistry for Children.

Saturday, September 6, 1:30 p.m. to 5 p.m.
Colonial Room
Scientific Program

"Oral and Facial Development, Preventive and Corrective Appliances."
Dr. Ruth Martin, Chairman, Presiding

Dr. L. B. Higley—"Oral and Facial Development"
Dr. B. L. Gainsforth—"Space Control"
Dr. Woodrow O'Brien—"The Effect of a Dental Speech Aid on the Intelligibility of Speech"
Miss Mildred McGinnis—"Influence of Oral Structures on Speech Intelligibility"

Sunday, September 7, 9:30 a.m. to 12 Noon
Alexander Room
Table Clinics
Twenty personalized presentations of scientific and practical aspects of dentistry for children.

Sunday, September 7, 1:30 p.m. to 5:00 p.m.
Colonial Room
General Business Meeting and Election of Officers.

Sunday, September 7, 6:00 p.m. to 7:00 p.m.
Alexander Room
Cocktail Hour

Sunday, September 7, 7:00 p.m.
Colonial Room
Silver Anniversary Banquet
"THE FIRST TWENTY-FIVE YEARS"
Walter C. McBride

Wives, Dental Hygienists, Dental Assistants and members of the A.D.A. are cordially invited to attend the Banquet. Dress is informal.

Exfoliation of Teeth by Means of Elastic Bands*

MAURY MASSLER, D.D.S., M.S. AND BERTHA AGUIRRE, C.D., M.C.S.

Editor's Note:

We are grateful to Maury Massler for the accompanying article, which we're sure you'll find interesting and informative.

Most of our readers know Maury Massler who heads up the Graduate Pedodontics Division of the University of Illinois College of Dentistry. He is an indefatigable worker, essayist and writer, who has attained international prominence in his field.

Bertha Aguirre is an attractive young lady in her twenties, educated at the National University in Mexico City, who spent one year at Forsyth Clinic and another as interne at the Research and Educational Hospital in Chicago. Just in case you wondered, as we did, what the C.D. and M.C.S. degrees are—the C.D. degree is the Mexican equivalent of our D.D.S. and is Cirujano Dentista, while the M.C.S. (Maestro en Ciencia Sanitaria) is comparable to our Master of Public Health.

Tuck this article away in your "things to remember" file—some day you'll be glad you read it!

A. E. S.

INTRODUCTION

THERE are certain types of patients in whom it is dangerous or undesirable to use routine surgical procedure for the removal of teeth (that is, forceps plus anesthesia). For example, in "bleeders" (known or suspected hemophiliacs, purpura, etc.) traumatic procedures which lead to hemorrhage are contraindicated since the patient usually suffers greatly from loss of blood.

In persons with acute or chronic cardiac damage, it is important to avoid the transient bacteremia incident to the extraction of teeth. In cardiac cases (especially in cardiac children) it is also very important to avoid the emotional trauma incident to the extraction of teeth lest the adrenal reaction precipitate an acute crisis. Far more adrenalin is secreted by the adrenal medulla during excitement and fear than is contained in the anesthetic solution.

Routine extraction procedures are difficult to carry out in psychoneurotic patients, mentally deficient or spastic children because of fear and uncooperativeness on the part of the patient. In such persons it is much more advantageous to exfoliate the teeth rather than to extract them.

Preparation of the Gingiva. When the gingivae are clinically normal the gingival sulcus is shallow and it sometimes is difficult to place an elastic ligature so that it will slip apically rather than occlusally. This is especially true in the partially erupted molars of children. In such cases, the gingival attachment should first be separated from the enamel and the gingival sulcus deepened before the elastic ligature can be placed and held securely in place. To accomplish this painlessly, dental floss is tied tightly around the tooth, tucked gently into the gingival sulcus and left in place for 24 hours (figure 1). At the end of that time the gingival sulcus will permit entrance of the elastic ligature. If the gingival sulcus is not thus prepared, the elastic ligature may press *on* the gingiva causing pain and inflammation (figure 2).

* Drawings by Dr. T. K. Barber

If gingival pockets are already present, preparation of the gingiva as described is not necessary.

When the gingival margin is inflamed, the cotton or elastic ligature may cause further congestion, pain or bleeding. It is therefore advisable to treat the gingiva and eliminate gross inflammation before application of the ligatures.

Application of the Elastic Ligature. Orthodontic rubber bands have been generally used for the exfoliation of teeth, However, we have found these to be too thick to slip easily into the gingival sulcus. They frequently rest *on* the gingival crest and cause injury (figure 2). Therefore thin elastic bands are made from rubber dam material. A hole of suitable size is punched on a small piece of rubber dam (2–3 mm. diameter) (figure 2). This is coated with cocoa butter and slipped over the tooth (after the cotton ligature is removed). The inner edge of the rubber dam can then be introduced gently into the gingival sulcus. The free (outer) edge of the rubber dam is trimmed with scissors to produce a cone shaped elastic ligature about $\frac{1}{8}$" to $\frac{1}{4}$" wide. The conical form of the ligature will cause the elastic ligature to slip apically by its own action. The ligature is allowed to remain in situ for three to seven days.

Further and continued action is obtained by placing an orthodontic rubber band on the rubber dam elastic. The orthodontic elastic tends to push the rubber dam forcibly toward the apex (figure 3). Detachment of the gingivae and resorption of the bone occurs as a result of "pressure atrophy" (figure 3).

As the tooth becomes exfoliated, it often rises in the socket. The cusps must then be ground down to relieve the occlusion, else soreness may result. In fact, it is a wise precaution to relieve the occlusion *before* beginning the exfoliation. In conical teeth the rubber dam elastic works its way apically rapidly. In molar teeth the crown is bisected after the bifurcation of the root has been exposed and each half

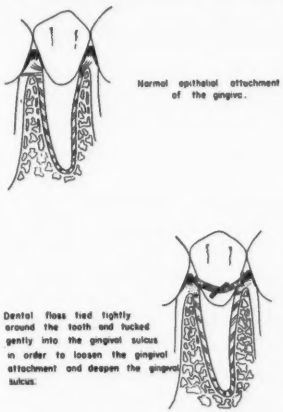
Normal epithelial attachment of the gingiva.
Dental floss tied tightly around the tooth and tucked gently into the gingival sulcus in order to loosen the gingival attachment and deepen the gingival sulcus.

FIG. 1. Preparation of Tooth for Elastic Ligature

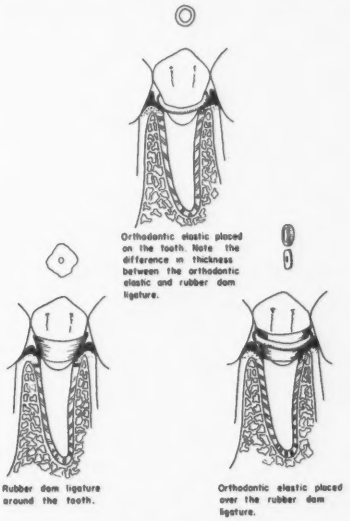
Orthodontic elastic placed on the tooth. Note the difference in thickness between the orthodontic elastic and rubber dam ligature.
Rubber dam ligature around the tooth.
Orthodontic elastic placed over the rubber dam ligature.

FIG. 2. Types of Ligatures

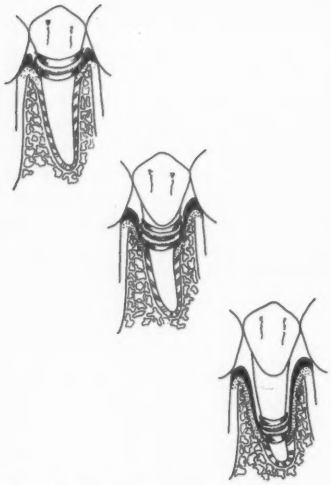

FIG. 3. Progress of Elastic Along Tooth Length

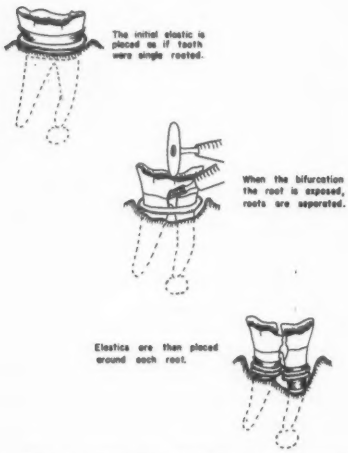
The initial elastic is placed as if tooth were single rooted.
When the bifurcation of the root is exposed, the roots are separated.
Elastics are then placed around each root.

FIG. 4. Using the Elastics on Multi-rooted Teeth

can be treated as a separate conical root (figure 4).

DISCUSSION

There are surprisingly few reports concerning the exfoliation of teeth by means of elastics. In 1870 McQuillen commented that Dr. Wentworth had a case in which a tooth was accidentally exfoliated by a rubber band left in error around the tooth of one of his patients. In 1883, Weiss again described a case in which a ring of rubber dam was accidentally left around a tooth, which accident caused the exfoliation of the tooth.

In 1923 Housden suggested the extraction of teeth with rubber rings. He mentioned that several roots had been successfully exfoliated by this method.

In 1933 Cambrook (for the first time) deliberately used elastic bands to remove teeth in a patient with hemophilia. He did not describe the technique in detail but did stress that the process was effective although somewhat painful. One year later, in 1934, Dalitsch wrote on the "Dental Extraction in Hemophiliacs." Dalitsch indicated that several teeth could be removed by the use of elastic bands applied around the necks of the teeth. In 1939 two informative articles appeared: "Removal of Teeth by Exfoliation with Elastic Ligatures" by Dalitsch and "Tooth Extraction in Hemophiliacs" by Birch and Snider. These articles described the uses, advantages and disadvantages of exfoliating teeth by means of elastic ligatures. The experience of the authors was confined to hemophiliacs in whom they successfully removed several teeth.

White and Mallet (1949) attempted to extract teeth by means of an elastic tied to the opposing teeth for anchorage. This method was unsatisfactory and simple exfoliation by elastic bands proved more successful. They did not completely exfoliate the tooth but used forceps after

the tooth was partially denuded and very loose.

Linz (1951) criticized the rubber ligature technique. He remarked that it is a long procedure attended by discomfort and pain.

Advantages. The method is simple and in specific cases very effective. In all instances, it can be very helpful in the removal of teeth. We have frequently used elastic bands to prepare a tooth so that extraction later by means of forceps was made simpler and less traumatic. Hemorrhage as well as physical, surgical and psychic shock are minimized by this procedure.

Disadvantages. The exfoliation process may take a long time and produce soreness or discomfort to the patient.

Summary

The removal of teeth by exfoliation using elastic bands is very useful in cases where the extraction of teeth by surgical procedures is contraindicated, as in persons suffering from blood dyscrasias or cardiac damage and in uncooperative patients who are mentally or emotionally unable to tolerate tooth extraction.

University of Illinois College of Dentistry, 808 South Wood St., Chicago 12, Ill.

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Around the Country

MID-WEST

Another step forward for Dentistry for Children was the anouncement by the Michigan State Board of Dental Examiners that candidates for licensure will be assigned child patients for the insertion of two surface amalgam restorations. The other states that require the placing of a two surface amalgam restoration in primary molars are California, Missouri and Minnesota. Here's hoping that many other States follow suit.

* * *

In America, national observance is given Dentistry for Children sometime during the month of February. Most every community has some type of program. The Omaha District Dental Society for the past two years has set up a mobile dental x-ray trailer which locates in various parts of the city to take free bitewing x-rays of the children who visit the trailer. This has proven to be an excellent way of bringing to the parents the important place of dental x-rays for children.

In an earlier school dental survey made in Omaha 43% more cavities were found by bitewing x-rays than by visual examination alone.

The Omaha District Dental Society also devotes its entire February meeting to some phase of Dentistry for Children. On February 12th there was a panel discussion on the subject, "Thumb Sucking Habits in Relation to Psychological, Dental and Facial Deformities". Panel members included a Pedodontist, Pediatrician, Anthropologist, Psychiatrist, Psychologist, and an Orthodontist. Wives of the dental society members were invited to attend this fine program.

* * *

Dr. Helmut A. Zander was guest speaker at the annual meeting of the Nebraska Society of Dentistry for Children held in Omaha on May 13, 1952. His subject—"Indications and Contraindications for Pulp Capping and Vital Pulpotomy". Dr. Zander can always draw a large crowd.

* * *

Our A. S. D. C. President, Earl Lampshire, has been almost as busy as some political candidates making speeches all over the country. Earl returned from St. Louis on February 11th and on February 12th he appeared before a meeting of the Omaha District Dental Society. On March 8th Earl talked to the Wisconsin Dental Study Club at Madison, Wisconsin. On April 7th he was the luncheon speaker at the annual clinic meeting of the Nebraska Society of Dentistry for Children.

* * *

Four A. S. D. C'ers of the Nebraska Unit were the essayists at the annual clinic meeting of the Nebraska Society of Dentisty for Children. Their general topic dealt with the treatment of fractured anteriors with pulp involvment. The speakers included Doctors Sam Weinstein, A. A. Kubat, H. J. Wegener, and Herb Seberg.

* * *

On March 4th, 1952 Dr. Ralph E. McDonald, Professor of Children's Dentistry of Indiana University, spoke on the subject of Children's Dentistry before the

Kenwood-Hyde Park Branch of the Chicago Dental Society.

* * *

Maury Massler visited Santiago, Chili recently where he was a delegate to the International Dental Congress. He and Mrs. Massler were guests of Dr. Carlos Tapia, one of Maury's former students.

* * *

Fellowships for graduate study in Pedodontics are being offered at the Universities of Nebraska, Michigan, and Northwestern. Each is a two-year program leading to the degree of Master of Science in Dentistry. Fellows receive free tuition and a handsome monthly stipend. Write to the Deans for more information.

* * *

The graduate department of Orthodontics of Northwestern University Dental School will present a post-graduate course for orthodontists and pedodontists on June 30, July 1 and 2, 1952. The course on cephalometric radiography will include: normal and abnormal growth of the face; cephalometric analysis of malocclusion and results of orthodontic therapy; the influence of growth on orthodontic therapy, functional analysis of occlusion; normal and abnormal function of the temporomandibular joint and management of cleft lip and palate cases. All interested persons should contact the Dean of the School of Dentistry.

* * *

Our Editor, Al Seyler, after reporting his income tax, spent the last two weeks of March travelling in Switzerland, Germany, France and England.

* * *

Dr. Gordon Rovelstadt is now a diplomate of the American Board of Pedodontics. Gordon practices in Elgin, teaches at Northwestern and directs the dental service at the Children's Memorial Hospital in Chicago.

WEST

Mott Erwin of Portland, Oregon, appeared in Vancouver, B. C. as guest clinician and essayist before the Vancouver Affiliate Unit.

* * *

The Oregon Unit has been very active with their five meeting schedules a year. David Law headlined their November meeting with his famous rubber dam technic. Hugo Kulstad, our past President, appeared on their January program. Hugo's clinics and dinner speeches are always tops. Walter T. McFall was the main speaker at the March meeting of the Oregon State Dental Association and was guest of honor at a luncheon sponsored by the Oregon Unit.

* * *

Tiny Ben Rabinowitch will present his technics of saving chronically involved primary teeth at a post-graduate course at the University of Oregon School of Dentistry in May, 1952.

* * *

Paul Taylor writes that only about one half his practice is children now. He is a Captain stationed at Camp Stoneman, California, Qtrs. P-120 Apt. A. He feels fortunate to have such a good percentage of first class patients.

EAST

The American Academy of Dental Medicine announces their sixth annual meeting to be held at the Mount Royal Hotel in Montreal, Canada on May 29, 30 and 31, 1952. The program will include a series of lectures and round table discussions. All members and interested dentists and physicians are invited to attend. Write Dr. Wm. M. Greenhut, 124 E. 84th St., N. Y. 28, N. Y.

* * *

Dr. Paul K. Losch, Associate Professor of Dental Pediatrics, Harvard School of

Dental Medicine, was guest speaker at the first stated meeting of the Academy of Dentistry of Ontario, Canada, on January 16, 1952. His subject was "Children are Practice Insurance". And we all know that children are interesting little premiums, too, Paul!

* * *

Dr. Frank B. Gardner, Scranton, Pennsylvania and Dr. Walter C. McBride, Detroit, Michigan appeared on the program of the Ontario Dental Association Convention, Royal York Hotel, Toronto, May 14, 1952. Looks like the Ontario Dental Association arranged a fine program.

* * *

Fred Shiere, Professor of Oral Pediatrics at Tufts College Dental School, gave essays on the morphology of the primary dentition and operative techniques before the Montreal Dental Club in Canada and the mid-winter meeting of the New Hampshire Dental Society in Manchester, N. H.

* * *

Harold Berk presented clinics and lectures in Providence, Rhode Island, Peabody, Lynn and Andover, Massachusetts on Techniques of Pulpotomy, Treatment and Restoration of Fractured Anterior Teeth, and the use of Self-curing Resins in dentistry for children.

Recently the Massachusetts Unit held a combined meeting with the Metropolitan District Dental Society which was a great success.

* * *

M. Michael Cohen has been appointed to the Brookline, Massachusetts Advisory Council of Public Health. Mike is President of the Massachusetts Unit this year and is an instructor in Pedodontics at Tufts.

New Offices

Dr. Barnett Malbin, former President of the Michigan Unit, has announced the removal of his offices to 717–721 David Whitney Building, Detroit. Visitors have commented that Barnett has a beautiful new set-up. Practice limited to orthodontics.

* * *

Two A. S. D. C. men, Francis P. Devlin of 120 South Main Street, Phillipburg, N. J. and Aloysius A. Kubat of 1816 Missouri Avenue, Omaha have announced the opening of their offices. Both are limiting their practice to Dentistry for Children.

Diaper Derby

All A. S. D. C'ers are interested in children and there probably have been dozens born the past three months, but some that we know about are:

A boy, February 27, 1952 to Dr. and Mrs. Hugh M. Kopel of Detroit. This is the Kopel's first child.

A boy, January 18, 1952 to Dr. and Mrs. L. W. Teutsch, Omaha. Their second boy.

A boy, December 8, 1951 to Dr. and Mrs. Tony Malone, Illinois. Their second boy.

A boy, James, April 1952, to Dr. and Mrs. Haig Garabedian, Detroit. Their first child.

A boy, Norman Taylor, March 1952, to Dr. and Mrs. John Gilster, St. Louis. Their second child.

Believe it or Not

A friend of mine, a well known A. S. D. C.'er wrote a prescription in his usual illegible hand. The patient's dental ills must have vanished quickly because he did not get it filled. In due time he forgot what the little piece of paper in his card case was.

The patient used it for two years as a railroad pass. Twice it got him into Radio City Music Hall and once into Ebbetts Fields for a ball game. It came in handy as a letter from his employer to the cashier to increase his salary. To cap the climax, his daughter played it on the piano and won a scholarship to a conservatory of music. (Ed. note—It's old and corny, we know, but we'll let it go through to please you, Laren!)

* * *

M. Joel Freedman, Essayist and Clinicians Eli Fass, Norman Feitelson, Mark Wallach, Abram Kobren, Bill Frankel, presented the subject "Building Your Practice thru Dental Health Education" before the 1st District Dental Society of New York in February 1952.

* * *

Dr. Sidney I. Kohn of Jersey City, President of the New Jersey Society of Dentistry for Children, was February Clinician, at Dover Farms, Dover, N. J. on February 13. Dr. Kohn presented "Some Practical Procedures in the Management and Treatment of Children." Dr. Kohn's talk and slides were well received and he followed up with a short question and answer period that was very instructive.

* * *

Dr. Harold Addelston, of our N. Y. Unit spoke before the Mercer County Dental Society's annual Children's Dental Health Day Dinner in February. His topic—Dentistry for Children in Public Schools." Hal and Jack Wisan who spoke on "Fluoridation" were the best received of any speakers during the past year. Congratulations, fellow A. S. D. C.'ers!!

Our Editorial Committee has asked that we bring you the following notice:

"Around the Country" is a section of the Journal of Dentistry for Children that many members enjoy reading because it personalizes the Journal and makes it different from other publications. To many A. S. D. C'ers this is the only means of contact between the national meetings.

In the past there has been no definite system of securing news items for "Around the Country". News was gathered primarily by two or three individuals. This method is inadequate to secure news from all sections of the country. Therefore, it was suggested that a letter be sent to all unit secretaries, each quarter, as a reminder to send in items of interest to the column editor. The unit secretary may take the responsibility to send in news about members of his unit or designate an editor to submit items of interest.

Let's try to make this more of a personal column—births, marriages, engagements, trips, experiences, hobbies, new homes, new offices, or anything else that we'd all enjoy reading about.

Items must be in the hands of the column editor, Laren W. Teutsch, 4201 Farnam Street, Omaha, Nebraska by:

September 15, 1952—4th Q. issue 1952
December 1, 1952—1st Q. issue 1953
March 1, 1953—2nd Q. issue 1953

The unit secretary will receive this notice about three weeks before the above mentioned deadline dates.

Items of interest for this column should be sent to Dr. Laren Teutsch, Editor, 4201 Farnam St., Omaha 3, Nebraska.

Intelligence Quotients and Dental Caries Experience

ROBERT J. BRUCKNER, D.D.S., M.S. AND THOMAS J. HILL, D.D.S.
School of Dentistry Western Reserve University Cleveland, Ohio

Editor's note:

The authors of the accompanying article are members of the faculty of Western Reserve University in Cleveland, Ohio. Tom Hill is Professor of Oral Pathology, Bob Bruckner, Assistant Professor of Anatomy and Oral Diagnosis.

Doctor Hill is a quiet spoken, pipe smoking fellow whom we see at the various scientific meetings around the country. He is a graduate of Western Reserve, is married and has two children of whom he is very proud. His hobby is farming—and we happen to know that he is a very popular man-about-campus at harvest time, and his samples of produce are always in great demand!

Doctor Bruckner is a graduate of the University of Maryland, 1944, who after receiving his M.S. from Western Reserve in 1948, joined the faculty of the latter school. His hobbies are painting, music and table tennis—and since he is unmarried he finds plenty of time to pursue them.

This paper deals with a relatively new and unexplored phase of dentistry. We'd like to see some further research work done along this line to corroborate the findings—but it does offer something new for you readers to think about as you examine the children in your practice.

A. E. S.

INTRODUCTION

IN THE course of gathering data for a dental caries control study carried out in a suburban school system, the authors were furnished the results of Intelligence Tests that had been administered to pupils attending the schools participating in the dental program. The availability of these records led to the present study in which the dental caries data were grouped according to the Intelligence Quotient attained by the schoolchildren. The rationale of such a procedure was based on the premise that the many personal attributes that combine to affect Intelligence Test scores would also play a part in the maintenance of oral health.

The data for the present report were obtained in the manner briefly described below. More detailed information can be obtained in another report (1). A dental survey was made using mirror, explorer, and roentgenographic (bite-wing) examinations. The number of teeth and tooth surfaces that were DMF was determined for each pupil, as well as the total number of teeth and tooth surfaces that were available (erupted) to become DMF. The amount of caries attack sustained by the groups of individuals examined was expressed as the per cent of teeth, and per cent of tooth surfaces, that had become DMF.

Of the many types of IQ tests administered, there were two which the school authorities considered the most satisfactory. These were the Pintner-Cunning-

Supported in part by a joint grant from The Louis D. Beaumont Trust, The Elizabeth Severance Prentiss Foundation, and The Cleveland Foundation.

ham and Henmon-Nelson tests.* Only those individuals who had been given one or the other of these tests were considered. The pupils were listed in the order of their IQ and those with scores in the upper third and those in the lower third were selected as the two groups to be compared. The former will be referred to as the "High" IQ group and the latter as the "Low" IQ group although the terms are used in a relative sense. The "Low" group includes individuals with IQ's within the normal or average range and four children of the Negro race. Many of the parents were employed at nearby industrial plants while others were associated with small businesses and professions.

Findings and Discussion

On the basis of the Pintner-Cunningham test, the IQ's ranged from 110 to 135 in the "High" IQ group and from 65 to 97 in the "Low" IQ group. For the Henmon-Nelson test the scores ranged from 112 to 151 in the "High" group and from 75 to 99 in the "Low". The distribution of 252 children according to IQ values is shown in Figures 1 and 2.

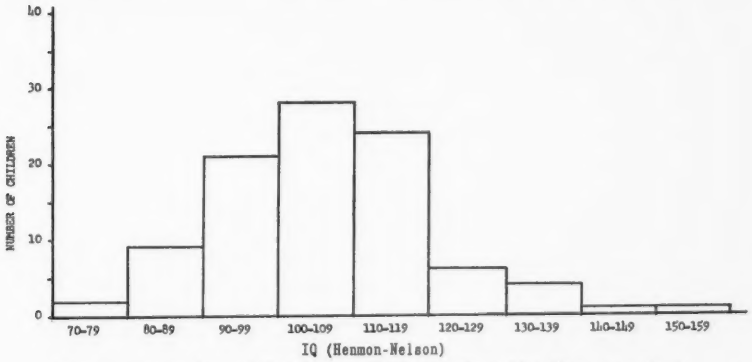

Fig. 1. Distribution of 96 children according to indicated intelligence quotient.

should not be considered as a group with abnormally deficient mental capacity.

The children were residents of a suburb of Cleveland. All the pupils considered in the present report attended the same school and were White, except for

Dental caries data for the "High" Henmon-Nelson group were combined with the "High" Pintner-Cunningham, and, in similar fashion, the "Low" groups were combined. The data for the two groups of children are shown in Tables 1 and 2. Table 1 includes the data that were obtained when the 1950 dental survey was made to determine the initial dental caries prevalence. Table 2 includes the data obtained when a survey was conducted a year later, during which

* The Pintner-Cunningham test is designed for kindergarten, 1st and 2nd grade children. Using pictures, it measures each child's background of information, ability to follow oral instructions, attention to detail, and space and size evaluation. The Henmon-Nelson test is designed for 3rd to 8th grade pupils. It requires reading ability and concerns such matters as the meaning of words and ideas (proverbs, for example).

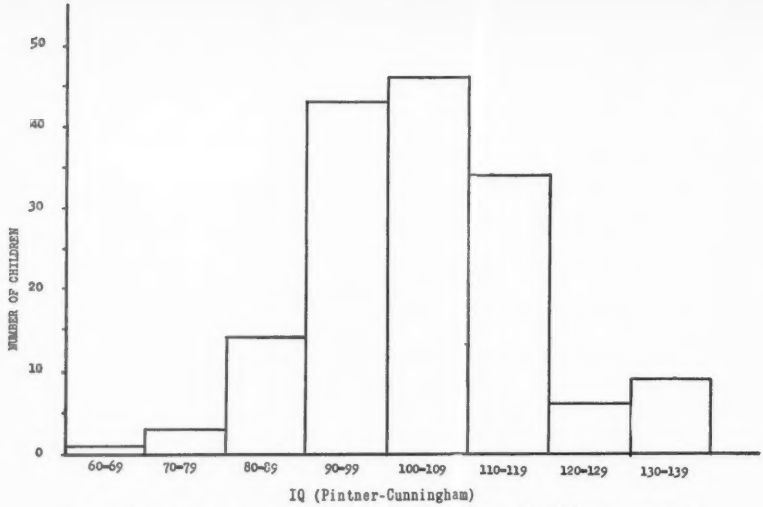

FIG. 2. Distribution of 156 children according to indicated intelligence quotient.

TABLE 1

Dental caries data obtained for 165 school-children in 1950, grouped according to Intelligence Quotients. DMFs means decayed, missing, and filled tooth surfaces; M was estimated to be 2.3 surfaces per missing tooth. DMFt means decayed, missing, and filled teeth. T and S refer to teeth and surfaces, respectively, available (erupted), and include teeth and their surfaces lost because of caries. A Chi-square value of 3.84, or more, with a probability of chance occurrence of .05, or less, is considered "significant".

AGE	IQ GROUP	NO. IN GROUP	DMFs	S	$\frac{DMFs}{S} \times 100$	DMFt	T	$\frac{DMFt}{T} \times 100$
6	"High"	15	20	460		20	92	
6	"Low"	25	33	710		31	142	
7	"High"	28	79	1295		67	259	
7	"Low"	25	93	1145		68	229	
8	"High"	6	13	330		11	66	
8	"Low"	3	7	160		6	32	
9	"High"	13	61	1055		40	211	
9	"Low"	19	105.6	1415		66	283	
10	"High"	19	151.9	1865		96	373	
10	"Low"	12	120.9	1155		77	231	
Total.....	"High"	81	324.9	5005	6.49	234	1001	23.4
	"Low"	84	359.5	4585	7.84	248	917	27.0
Chi-square.....					6.55			3.42
Probability of chance occurrence.....					.01			.064

time the children had been on a supervised tooth-brushing program in which experimental and control dentifrices were employed. At the completion of the study it was found that the experimental dentifrice had little, if any, beneficial effect when compared with the control dentifrice.[1] Inasmuch as the effects of the two dentifrices on caries incidence were comparable, it is possible to compare the "High" and "Low" groups is tested statistically, it is significant, for the probability of a difference as great as that observed having occurred simply by chance is only 1 in 100, approximately. When the difference between the two groups as measured by the per cent of DMF teeth is tested statistically, the probability that a difference as great as that observed could have occurred by

TABLE 2

Dental caries data obtained in 1951. The pupils had been on a supervised tooth-brushing program during the interval 1950–1951

AGE*	IQ GROUP	NO. IN GROUP	DMFs	S	$\frac{DMFs}{S} \times 100$	DMFt	T	$\frac{DMFt}{T} \times 100$
6	"High"	15	56	750		40	150	
6	"Low"	25	119	1245		81	249	
7	"High"	28	172	1660		101	332	
7	"Low"	25	207	1485		109	297	
8	"High"	6	41	375		23	75	
8	"Low"	3	20	185		12	37	
9	"High"	13	133	1330		75	266	
9	"Low"	19	213.6	1685		117	337	
10	"High"	19	269.9	2245		158	449	
10	"Low"	12	192.9	1415		115	283	
Total....	"High"	81	671.9	6360	10.56	397	1272	31.21
	"Low"	84	752.5	6015	12.51	434	1203	36.08
Chi-square.....					11.49			6.56
Probability of chance occurrence.....					.0007			.01

* Age at the start of the study.

"High" and "Low" IQ groups at the completion of the study without regard for the particular dentifrice used by the various children in each group.

Referring to Table 1, it can be noted that the prevalence of dental caries was less in the "High" IQ group than in the "Low" (compare 6.49% DMFs with 7.84% DMFs, and 23.4% DMFt with 27.0% DMFt). When the difference between the per cent of DMF surfaces in chance, is 6.4 in 100. The latter borders on a significant difference but is less certain than the difference observed when per cent DMF surfaces is employed.

When the two groups are compared a year later (see Table 2) the per cent of DMF surfaces and DMF teeth is less in the "High" IQ group than in the "Low", and the difference is significant for both methods of measurement.

In attempting to evaluate the differ-

ence in caries prevalence observed between the two groups of children, any interpretation made must be tempered by the realization that "intelligence", and its measurement, is an expression of the influence of a broad variety of personal qualities and endowments. Likewise, the amount of dental caries sustained by an individual represents the net effect of local oral conditions, systemic factors, and environmental influences, each of which, with its numerous subdivisions, contribute to, or guard against, the caries process. Consequently, one could not attribute to intelligence, *per se*, the capacity to alter caries prevalence. But if the rather small group studied is truly representative, and if the result of the intelligence tests is a reflection of environmental as well as inherent personal attributes, one may be justified in concluding that caries prevalence is less in a group of individuals whose intelligence quotient is high, than in a group with a relatively low IQ.

Summary and Conclusion

In 165 school-children, 6–10 years of age, grouped according to their attainment on IQ tests, dental caries prevalence was less among the group with the higher IQ's than with the lower IQ's.

A dental survey conducted in 1950 revealed that the difference in caries prevalence between the two IQ groups was significant when calculated on the basis of per cent DMF surfaces ($p = .01$), and bordered on significance when using per cent DMF teeth ($p = .064$). A survey conducted a year later, during which interval the children had been on a supervised tooth-brushing program, revealed a lower caries prevalence in the "High" IQ group than in the "Low" IQ group, and the difference was significant using both methods of caries measurement ($p = .0007$ and .01, respectively).

Reference

1. Bruckner, R. J., Hill, T. J., and Wollpert, B. J. Measurement of Caries Incidence in School-Children Using a Sodium Bicarbonate Dentifrice: J. Dent. Res. 31: 105–112, 1952.

Your Journal plans to publish a Directory of Members this year. Pay your dues now to be sure you receive it.

Unit News

Oregon

Since the reactivation of the Oregon Unit three years ago great progress has been made. Proof of this fact is an evaluation of the programs they have had and those they are anticipating.

Dr. Charles Bradley, Associate Professor of Pediatrics, U. of O. Medical School, spoke at the September meeting on Emotional Growth and Development of Children.

Dr. David Law, director of Pedodontics at the U. of Washington, presented a fine clinic on the use of rubber dams for operative procedures for children. At this November meeting a practical demonstration was given by eight members of the group directed by Dr. Law.

The January meeting was headlined by Dr. Hugo Kulstad who had just conducted a two day P. G. course in Pedodontics at U. of O.

Evangelist McFall at the Oregon Unit Meeting.

Dr. Walter McFall highlighted the March meeting which was held in conjunction with the Oregon State Meeting.

In May Dr. Ben Rabinowitch gave a two day P. G. course at U. of O. on saving chronically involved primary teeth. After the P. G. course the unit had him as a clinician.

Massachusetts

Mass. Unit is doing its share to promote dentistry for children—Fred Shiere, Prof. of Oral Pediatrics at Tufts College gave essays on the morphology of primary teeth and operative technic before the Montreal Dental Club in Canada and the Mid-Winter meeting of the N. H. Dental Society.

Harold Berk presented clinics and lectures in Providence, R. I., Peabody, Lynn, and Andover, Mass. on "The Technic of Pulpotomy." "Restoration of Fractured Anteriors" and the use of "Self Curing Resins in Dentistry for Children."

New Jersey

The mid-winter meeting of the New Jersey Unit of the A. S. D. C. was held on January 9th, 1952 at the Military Park Hotel in Newark. Dr. John Heindel conducted the meeting at which 125 were present.

In the afternoon there were table clinics presented by members of Dr. Addelston's pedodontic department of N. Y. U., Dr. Harold Klein, Dr. Melvin Bellet, Dr. Abraham Kolren, Dr. Norman Feitelson, Dr. Joseph Keller, Dr. Jerome Wolff, and lastly Dr. Earl G. Ludlam from our New Jersey Department of Health.

In the evening following dinner, Dr. Paul D. Losch of Harvard spoke to the members. His subject was, "The Profession's Responsibility in Dentistry for Children." Anyone who has heard Dr. Losch knows the talk was excellent.

Much credit goes to Dr. John Heindel for the handling of the meeting. We predict a bright future for him in A. S. D. C.

Tennessee

Dr. C. E. Jennings, President of T. S. D. C. is proud of the annual meeting which was held at the Peabody Hotel in Memphis on May 5, 1952.

12:30 P.M. Council and Committee Reports, Luncheon Meeting.

1:30 P.M. Executive Council and Local Unit Delegates presided over by President-Elect.

2:00–5:30 SCIENTIFIC PROGRAM:

The Child in Your Practice

Dr. W. W. Demeritt, Professor and Head of the Department of Pedodontics, School of Dentistry, University of North Carolina, Chapel Hill, N. C.

Synopsis: The methods employed in Child Management as well as Practice Management will be presented. Further, the diagnosis and treatment of child patients who have experienced an early loss of the primary teeth will be discussed. Dentures for child patients will be featured.

3:30 Dr. John C. Brauer, Professor of Pedodontics and Dean, School of Dentistry, University of North Carolina, Chapel Hill, N. C.

Synopsis: The first phase of the program will deal with the treatment and restoration of primary teeth, while the second phase will cover the treatment and restoration of fractured central incisors.

Michigan

With Dr. Joseph Hartsook as moderator, the annual panel meeting in Ann Arbor was a great success. The topic was on dental growth problems of children and the panel was composed of Drs. Louis Schultz, H. L. Shehan, Kenneth A. Easlick and Philip Northrup. Not to take any credit away from other members of the panel, but to express a fact, when Easlick is on the program it *has* to be good.

New York

On Wednesday, May 14 the N. Y. unit held its meeting in the Syracuse Hotel in Syracuse, N. Y. The turn out was worthwhile because the program was very attractive.

Table clinics as follows were presented:

Oral Dynamics in Pedodontics
Dr. John T. McSweeney, New York City
Dr. Edward J. Koltisko, Falls Church, Va.
Dr. Joseph Murray, New York, N. Y.

Surgical Procedures in Pedodontics
Dr. S. C. Waite, Buffalo, N. Y.

Economic Factors in Dentistry for Children
Dr. Raymond Kielich, Buffalo, New York

Pedodontics
Dr. August Twist, Lackawanna, N. Y.

X-ray Interpretation in Pedodontics
Dr. Anthony A. Malfitano, Syracuse, N. Y.

Preventive and Palliative Orthodontics
Dr. Mason E. Seibel, Syracuse, N. Y.

After the Dinner at 6:30, the meeting concluded with the

GENERAL SESSION—EAST BALL ROOM

Presiding: Dr. Robert L. Montgomery, *President*

Subject: Pedodontics

Essayist: Maury Massler, M.S., D.D.S., Chicago, Ill.

Discussion

CALIFORNIA

On February 22 the California unit held a special joint meeting with the Pacific Coast Society of Orthodontists. Dr. Clifford Whitman of Hackensack, N. J. discussed "Habits Related to Dental Deformities and Methods of Control." His presentation included both physical and psychological considerations.

On Wednesday, March 19, Dr. Paul J. Moses, Assistant Clinical Professor of Stanford University gave a lecture to the Northern California Unit. His talk was on "Vocal Analysis".

This obscure field dealing with the emotional factors affecting voice, their control and interpretation proved a fascinating topic. The attendance was good and as usual everyone felt that the time spent was well worth while.

CONNECTICUT

From Irving Eichenbaum of New Britain:

The first clinical conference of The Connecticut Society of Dentistry for Children was held at the Hotel Taft—New Haven, Connecticut—Wednesday, April 30, with the following fine program:

10:00 a.m.—Business Meeting

11:30 a.m.—Dr. Paul K. Losch, Diplomate American Board of Pedodontics; Harvard School of Dentistry; "The Responsibilities and Benefits of Serving Children"

12:30 p.m.—Lunch

I. 1:30 p.m.—Dr. M. Michael Cohen, Diplomate American Board of Pedodontics; Instructor Oral Pediatrics, Tufts Dental School; "Prophylactic Orthodontics and Tooth Guidance"

II. 2:30 p.m.—Dr. Harold Berk, Diplomate American Board of Pedodontics; Instructor Oral Pediatrics, Tufts Dental School; "The Treatment and Restoration of Fractured Anteriors"

III. 3:30 P.M.—Dr. M. M. Gershater, New York College of Dentistry; Attending Orthodontist, Pleasantville Cottage School; "Orthodontic Diagnosis in the Early Stages of Development"

IV. 3:30 p.m.—Dr. Norman Feitelson "Cast Restorations for Children"

All Sessions consisted of short illustrated essays and Table Clinics and time was provided for discussion at each table.

OHIO

From Frank Tuma, of Cleveland comes the following: Perhaps you might like a resume of the season's activities of the Ohio Unit, Cleveland Section: The following dinner meetings with programs were held at The University Club.

October 29, 1951: Amalgam Fillings for the Mixed Dentition, by E. Carl Miller.

January 21, 1952: The Economics of Dentistry for Children. A symposium presented by; Howard J. Law, (general practice); Chester J. Schultz, (general practice with emphasis on Pedodontics); Irving Tapper, (practice limited to Dentistry for Children); and Albert Kniesner, the moderator.

March 24, 1952: A Critical Analysis of Hypnosis in Pedodontics. A symposium by; Calvin O. Fritz, (The History of Hypnosis); Matthew Beljan, (The Physiology of Hypnosis); Stanley Kiley, (The Scope and Applications of Hypnosis) and Wm. Derrer, Moderator, (Hypnosis in Dentistry for Children).

Hypnosis appears to be a supplemen-

tary means of dispelling dental fears and phobias and inducing relaxation in both the patient and the operator. While not a panacea, and despite its present limitations, hypnosis may be adapted to a child's understanding, like playing a game (Sleepy-Eye). Hypnosis, *where applicable*, might be preferred to the *Towel Technique*. (Ed. note: Correct!)

April 21, 1952: A report on the Colorado Springs meeting of the International Association for Dental Research, by Thomas J. Hill, and E. Carl Miller.

Membership has grown steadily, partly because of the excellent programs, and partly because of the friendly, informal, serious, and enthusiastic members who bring guests who return as members. Membership in the Ohio Unit has reached one hundred; of these the Cleveland Section boasts of its share of eighty-one.

If news of your Unit does not appear in the Journal, call it to the attention of your officers.

Correspondence should be addressed to Mel Noonan, 141 S. Bates Avenue, Birmingham, Michigan.

from your president's pen

The Fourth Quarter issue of the 1951 Journal contained the names of the members and chairmen of our standing committees. All were requested to direct their activities to be of assistance to our Units as well as to the membership at large. I am very happy to report that all of the committee chairmen are already active.

Dr. J. N. Wisan's committee on Public Relations and Publicity is preparing a booklet to assist parents in preparing their child for a first visit to the dentist. The A.S.D.C. will have a large number printed and a suitable quantity will be sent to each unit which requests them. It is hoped that the distribution of these booklets will become a unit activity financed by the parent body.

Dr. Mott Erwin's Professional Relation Committee is accumulating material to aid in the publication of a list of speakers on dentistry for children. They are formulating a plan to submit to all State Units to guide the Units in the use of speakers from related professions on their programs. This committee is also writing to Presidents of Societies in related professions informing them of our aims and activities and offering our cooperation.

Dr. Albert Anderson, chairman of the Community Dental Programs has just moved from Woonsocket, Rhode Island, to Second Mesa, Arizona and has informed me of several fine projects upon which his committee is working.

Dr. George Teuscher, chairman of the Membership and State Unit Committee is doing a commendable piece of work in organizing units. Connecticut was recently granted their charter and Dr. Teuscher is working with several other states which he hopes to have chartered by September.

On February 10 and 11, I met with the chairmen of the annual meeting committees in St. Louis. They are Dr. Roy Wolff, Local Arrangements, Dr. Ruth Martin, Program, Dr. John Gilster, Clinics, and Dr. Earl Bean, Annual Banquet.

All preparatory arrangements for the Silver Anniversary meeting have been made and I am sure the meeting will be one of which we shall all be proud.

EARL L. LAMPSHIRE

Some Suggestions for Management of the Child Patient

ALVIN F. GARDNER, D.D.S.
Miami, Florida

Editor's Note:

Alvin Gardner is a graduate of Emory University School of Dentistry, 1943. After service in the Army Dental Corps and post graduate work at the Univ. of Kansas City, he began practice in Miami in 1946, limiting himself to orthodontics and pedodontics, and has been a member of the A.S.D.C. since his entry into practice.

We hope you enjoy his article.

A. E. S.

INTRODUCTION

THE MANAGEMENT of the young dental patient frequently presents difficulties and obstacles to proper and efficient dental treatment. This paper has been prepared in the hope that the information presented will be of some value in removing the difficulties so commonly encountered and which at times make dental treatment next to impossible.

PSYCHOLOGY OF THE CHILD'S FEARS IN THE DENTAL OFFICE

Fear in the child is the extreme form of disintegration. It disrupts the ordinary flow of experience and unfits the child to meet new situations with proper adjustment.

The fears which are most troublesome and which are most detrimental to the child's personality are the ones that spring from imagination, from unfounded beliefs or from actual situations which one cannot control. Children imagining tremendous pain in the dental office, or stories made up by other children who previously visited a dentist's office with extreme exaggeration create undue trouble and hardship for the dentist. These fears must be corrected and proved untrue to the child by the dentist.

Actually we believe that there is a greater frequency of fear responses in older age groups than in the young child.

On the whole children up to age of two show no fear apparent; by three and one half, there is some hesitation and caution. Definite fear responses occur more frequently after four. Adults show more definite fear responses than children in the dental office.

Girls are no more fearful than boys.

As the child grows older his reaction to dental office fears are somewhat modified. There is less crying and screaming and more whimpering and protesting; there is less clinging to accompanying adults and more active avoidance and hiding or running out of the reception room. However, most children learn to deal with dental situations in different and generally more adequate ways as they grow older.

Whether or not a child becomes fearful of dental treatment is dependent upon the way he is treated. The things parents do and say when the child once becomes afraid of treatment determine whether or not he will be afraid of the same treatment a second or third time.

Psychology of the Child's Anger in the Dental Office

The child who is first brought to the dental office and kicks, screams, struggles, and bites the dentist's hand is either in an emotional state of fear or anger. There is really no way of the dentist knowing which state of behavior is actually present. The best and most important thing to do is to get a description of the exact behavior.

For instance the responses of the child in the dental chair as kicking, striking, turning away the body or head, tightly closing the mouth, refusal to swallow, pulling away, indicate an active dealing with the situation and are the behavior of anger, not fear.

In fear the responses involve in most cases a removal of the child from active dealing with the situation. Anger, on the other hand, means removal of the situation through appeal to others or through retreat.

Whenever possible the child should be saved from a continuing sense of inferiority. For instance, the timorous shy child who doubts his own powers of achievements. Shower judicious praise and appreciation to his every good act in the dental chair and thus stimulate self-respect and confidence in him.

Suspicion hinders dental treatment for the child and is distrust, mistrust, doubt toward the dentist. It has its rise in apprehension, anxiety and dread in the child. It leads the child to false assumptions concerning the coming operations. To illustrate, when the dentist prepares to carry the alloy to the prepared cavity in an amalgam carrier, the child says "Don't give me a needle, I don't want a needle!"

Like fear, suspicion may be contagious and the child will develop suspicious attitudes toward situations other than the dental procedures.

The best methods of dealing with anger in the dental office are by diverting the child's attention, ignoring the outbursts and isolating or reasoning with him when outbursts do unavoidably occur.

Anger is differentiated from fear chiefly in that it is an active attack on a situation, rather than a retreat from it. The explosive outburst is directed at the removal of the situation rather than the removal of the child.

Basic Motives in the Conduct of the Child in the Dental Office

1. The drive of curiosity or the demand for new experience:

The young child manifests the urge to explore the new and strange, and the span of attention for a single item of experience is but a few seconds.

2. Avoidance of discomfort:

3. Fear motive:

Fear has a demoralizing effect upon the child's personality and interferes with the normal functioning of the organism.

4. Anger:

Characteristic reactions to the drive of anger are combat, fighting, attack.

5. Conflict—kind of child behavior:

If any activity of a child is interfered with and a barrier to his activity is encountered, conflict may result in the form of a temper tantrum, a natural outcome of the frustrating circumstance.

To alleviate fear in dental offices, eliminate noises and noisy things, pain and painful treatments as much as is humanly possible.

Remedies for the Child's Fear and Apprehension in the Dental Office

Verbal explanation, and reassurance plus a demonstration of dental procedures.

Use of an example of fearlessness in another child patient in the dental chair.

Attempt to cause the feared dental ob-

ject or procedure to occur simultaneously with an interesting unfeared event by providing numerous diversions in the dental office, movies, ear phones to radio programs and phonograph records, etc.

By providing contact with dental objects and procedures, not allowing child to go home and return for a future contact or appointment with dental procedures.

Providing provisions of opportunities for the child dental patient to become acquainted first with dental office procedures of his own accord.

Providing graded introduction of dental procedures by easy degrees.

Providing specific attempts to promote skills that will allow the child to deal actively with the dental situation, as pumping up or operating chair, filling water cup, using air and water syringe as well as saliva ejector.

Avoid sudden movements of self and equipment and materials.

Eliminate noisy equipment.

Avoid extreme chair height.

Avoid pain and painful dental treatments by use of appropriate pre-medication, and anesthesias and analgesias.

Avoid implying danger or threat of bodily injury.

Avoid ridicule.

908 Congress Bldg.

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Audio-Visual Aids in Pedodontics

M. Joel Freedman, D.D.S.

New York City

Editor's note:

Joel Freedman has been a member of N.Y.U.'s department of pedodontics for 8 years and his specialty is the use of audio-visual aids, some of which we have seen on our visits to N. Y. U.'s Children's Clinic headed by Harold Addelston.

He has given many clinics and lectures on the subject discussed in this paper, and will present a table clinic before the International Dental Congress in London, England this summer.

Whether you teach or practice dentistry, you'll find much interesting helpful information in this article.

A.E.S.

DENTISTS who plan to teach in dental schools, or to lecture and do public health work, think of themselves as teachers. Most dentists, however, think of themselves as practitioners of a healing art, scientists, or technicians, but hardly pedagogues.

Yet every dentist is a teacher in his relationship with his patients. As Dr. Addelston has said in his article on "Educational Aspects of Dentistry for Children," "... There has arisen the need for a correlation of education of the dentist, the general public (who are the parents of children) and the young patients concerning dentistry for children. This is essential for the betterment of the dental health of the youth of this country. Dentists must be taught special methods of treating child patients. Parents need to be informed concerning the desirability and the very real need for adequate dental care for their children. Children need to be trained to become good dental patients."

All of this involves teaching, and the dentist should learn to use the best methods of pedagogy in order to do this part of his work most effectively. Performing a pulpotomy is a different process from explaining to the parent the need for it, convincing him that it should be done, and describing the process in simple terms suitable for the layman. All of these are a necessary part of dental practice, and the dentist should be trained to do each of them. Gone is the day when the mysterious mumbo-jumbo of the medicine man added to his authority and power. Our patients want to understand what we are doing and why. Our explanation is a process which requires the knowledge of teaching methods to put it across.

One of these methods is the use of audio-visual aids. It must be noted at the outset, that these are offered only as *aids*—things to assist the dentist. The heart of his teaching is still the relationship between dentist and patient. Personality, professional skill, sincerity, information, integrity and wisdom still are the determining factors. Audio-visual aids are used only to assist the dentist in putting his ideas across vividly, memorably and economically from the point of view of time and effort.

The term "audio-visual aids" may sound formidable, but it stands for simple and well-known materials which are com-

ing into ever wider use. When an illustration adorns a book, when an x-ray or model is shown, or a sound movie presented, audio-visual aids are being used. In a way, they may be said to antedate the use of the printed page, for pictures were used in the dawn of history, alphabets were originally pictorial representations, and the abstract symbol or word came much later than the picture in the history of the communication of ideas.

With the development of printing, education came to be "book learning," and emphasized memorization and verbalism. Though educational reformers tried to get back to *things* instead of *words* as early as the sixteenth century, only recently has the emphasis been placed increasingly on *understanding* rather than reciting verbatim, and on the *use* of information rather than the accumulation of facts.

The world at large has been using audio-visual aids without calling them by this name for a long time. The travel folder, the propaganda poster, the billboard, the radio commercial, the television advertising skit—are all audio-visual aids in a successful assault on the consumer's pocketbook and emotions. Recently, the world of education has adopted these aids in order to make the learning process more dynamic and meaningful. It has been demonstrated that the appeal to the senses—sight, hearing, touch, and even smell and taste—creates impressions more lasting than those created by hearing a lecture or reading a book. In a recent experiment it was shown that 35% more was learned in a given time and 55% more retained after a certain lapse of time by the group taught with the use of audio-visual aids than by the control group which was taught without them.

In Pedodontics, audio-visual aids are used in three ways:

1. To teach the techniques and procedures of dentistry and the methods of patient and parent education to dentists and dental students.

2. To teach children individually and in groups the fundamentals and simple essentials that they should know about dentistry, particularly the dentistry that is being done *for them*.

3. To teach parents individually and in groups a general knowledge of dentistry such as the layman should have as well as about the dentistry being done for their children. (It should be pointed out that patients in one's office are generally interested in their own case and in dentistry as it applies to their own condition rather than in general information, however interesting and worthwhile it may seem to the dentist. If general information is given, it should be definitely related to the patient's own case. This does not apply to large groups, however).

The dentist who wishes to use audio-visual aids is faced with the following problems:

1. What types of materials are available?

2. By what standards should they be selected?

3. What equipment is needed for their presentation?

4. Where can they be procured?

Types of Material

Following are the types of materials available for *patient education*, and the purposes for which they may be used:

Most obvious is the dental instrument, which the dentist may show to the patient in order to acquaint the patient with what he is going to do and to remove part of the patient's fear, which is the fear of the unknown.

Next in accessibility would be the radiograph which the dentist uses to ex-

plain the patient's case by using his own x-rays and/or those of a similar case.

Photographs, black and white or in color, may be used to show before-and-after appearances of cases and various techniques.

Easy to acquire and show or distribute are posters, cartoons, charts, illustrations, diagrams, which are used to attract the patient's attention, arouse interest, give directions, and inspire, as well as to teach simple facts and principles. A bulletin board may be used to display some of these. A chalkboard or slate may be used for the dentist's drawing or diagramming.

Equally easy to collect and present are books, pamphlets, articles for both children and adults, and coloring sheets, crossword puzzles, quizzes and cutouts for children. These present information prepared for parents and for children of different ages in an attractive manner.

Study models and teaching models, often those prepared by the dentist in his own office, may be used to illustrate the condition of the patient, explain procedures, show a facsimile of a restoration, etc. These should be related to the condition of the patient to whom they are being shown, if they are used with individual patients, or show common conditions if they are being shown to groups.

Analogies, which make use of the common objects in the patient's experience in order to bring out dental facts, are easy to procure. For example, comparing a rotten spot in an apple with decay in a tooth, and showing how it must be scraped out, is a simple and graphic device to use with children. Small exhibits may be used in waiting rooms. Large exhibits may be shown at meetings, conventions, and in museums to show children and parents educational aspects of dentistry for children.

None of the above require special equipment in order to show or use them.

The following audio-visual aids require special equipment:

Radio: First among these is the radio. Patients can be encouraged to listen to broadcasts about general and dental health. Dentists who have radios in their offices can tune in on such programs. If dentists are invited to do radio broadcasts, they may consult existing scripts prepared by the Bureau of Public Relations of the American Dental Association and the Oral Hygiene Committee of Greater New York. Reprints of these scripts can be procured for patients. Forthcoming broadcasts of the Oral Hygiene Committee are announced in advance, and can be mentioned to patients during their visits, or posted on a bulletin board.

Television broadcasts on dentistry can be mentioned and tuned in on similarly, particularly on special occasions such as Children's Dental Health Day.

Record players may be used in the dental office to play educational recordings for teenagers such as those by Bing Crosby (ADA), for children, such as "Dental Ditties" by Marion Abeson, and songs by Frank Luther and Irving Caesar. They may be recommended to parents to use in school and P.T.A. programs.

Wire or tape recorders, which are becoming increasingly popular, have many uses in the dental office. On them the dentist may record and play back for his patients radio programs about dentistry, re-record the records mentioned above and record the speech of children before, and after certain conditions are corrected. He may also record his own or his personnel's presentation of a subject to a patient and play it back for himself and his staff in order to improve their technique of talking to patients. He may also

record the work of clinicians whose lectures he would like to study at his own leisure.

Motion pictures, sound and silent, may be used frequently, for a number of films have been produced which are suitable for educating the child patient and the parent. Motion pictures should be used when the film puts across an idea better than can be done by other means, and if the facilities permit. They entertain and educate during the time when the patient or parent is waiting.

Filmstrips or slides (2 x 2 or 2¼ x 3¼), sound and silent, black and white or in color are economical to buy and simple to store. They are excellent for most types of instruction. They are preferable to the moving picture when motion is not important or not required. Filmstrips are superior to slides if a consecutive story is to be told. Slides of his own cases may be made by the dentist to educate patients or to teach techniques to dentists and dental students. Color slides are preferred. Slides can be enlarged to 8 x 11 and put in shadow boxes for exhibit purposes. Slides and filmstrips can be used in continuous projection machines for exhibits for patients or dentists.

Opaque projection is desirable, although the projector is bulky and not easy to store. It can be used to project all kinds of materials—pictures, book illustrations, and small objects such as inlays and bridges. With the newer type of opaque projectors, the room need not be completely darkened. Though the projector is relatively expensive, the materials are cheap and easy to procure. Opaque projection is especially desirable if the dentist wishes to point out certain features of a drawing or an object in enlarged form to an individual or a group.

Attention of patients may be called to dioramas and displays on dentistry in local museums or dental schools and at dental conventions.

Technical Audio-Visual Aids

The audio-visual aids used in teaching the dental student or dentist are the same type as those used in patient education. There is a direct carry-over, therefore, from the techniques by which the dentist is taught to the ones which he will use in teaching his patients. Of course, the nature of the materials used in dental training is different, they being more technical and professional in content and wider in scope.

The simplest and most universally used are the instruments, of course, which are demonstrated in connection with each operation taught.

Motion pictures, silent and sound, are used to show techniques to groups of students or dentists in conjunction with a lecture. Motion pictures have the advantage of showing enlarged objects, closeups, and photo-micrographs. They can show processes which are usually too fast in slow motion, and record operations as well as factual material.

Field trips are considered a form of audio-visual experience. Through them, students can become acquainted with work done at hospitals, clinics, infirmaries, and other dental schools.

Wire or tape recorders may be used to record a lecture, so that a student who was absent can hear it; others can use it for review. Special lectures given at out of town conventions may be recorded for use in dental schools. Broadcasts of pertinent material may be taken on the recorder and played back whenever desired. Role playing of "dentist and patient and parent" can be recorded and played back for criticism. Actual conversation in the clinic can be used for the same purpose.

While radio and television programs on dental health are usually designed for the layman, it might be wise for dental students and dentists to become acquainted with them. They may wish to procure scripts from the American Dental Association and the Oral Hygiene Committee or to prepare their own. Television is now being used and dentists should be encouraged to prepare special materials for television.

Criteria for Selection

If all the available materials were arranged before the dentist like the food in a cafeteria, how would he select among them? Should he take the things nearest at hand, most attractive and appealing? Or is there some firmer basis of judgment? Experience of people working in the field of audio-visual aids in medicine has developed the following criteria:

For materials on teaching techniques to professional students or members of the profession, the chief questions are—

1. Is it scientifically accurate?
2. Does it teach or demonstrate a technique more effectively than could be done without its use?
3. Which type of material is most effective for use with the individual, with small groups, or with large groups?
4. What combinations of materials can be used for the most effective presentation possible?

From audio-visual materials of all the types listed above, the dentist or dental student or auxiliary personnel in an office, in a clinic, or in a school or community group must select the audio-visual aids he needs after making his plan. The lesson, demonstration, or talk should not be built around the available audio-visual aid. The speaker or demonstrator must decide upon his aim, in terms of the age and type of audience, and then decide what aids will help him accomplish this aim.

After he has decided upon the type or types of audio-visual aids which are suitable for the occasion, he selects the best among them by asking the following questions:

1. Is the message in this material the one which I want to stress at this time to this audience?
2. In this material, is the message presented simply, forcefully, and memorably?
3. Is it original, imaginative, and appealing?
4. Is it a good example of this type? For example, if it is a motion picture, is it well photographed, does it have a good story, etc.?
5. Is it scientifically accurate?
6. Has it been indorsed by a reputable educational and professional authority, such as the A.D.A. or a government health department, or a university dental school?
7. If prepared by an advertiser, is the product one which the A.D.A. indorses, and is the advertising brought in subtly?
8. Is the material psychologically sound, not arousing fear?
9. Will it not only give information, but also create good attitudes?

Equipment

The equipment needed if an individual or a school were to use all the audio-visual aids listed would be as follows:

Chalkboard, chalk and erasers
Paper pads and crayons
Bulletin board
Shadow boxes—to display slides (color or black and white) and x-rays
Cases for models
Storage space for pamphlets, books, articles, etc.
Screens for all projection

Slide viewer
Filmstrip projector—silent and sound and continuous
Motion picture projectors—silent and sound
Opaque projector
Record player
Wire or tape recorder
Radio
Television set
Storage space for charts and posters
Display space for pictures, charts and posters
Space for displays and dioramas
Catalogue and card index of materials
Cabinets for storing films, slides, records, and tape.

Sources of Materials

No complete list of sources of audio-visual materials for pedodontics has been compiled. When, and if, such a list appears, it will be of utmost benefit to dentists, dental students and teachers. In the meantime, the following partial list of sources of interesting materials may be helpful: (Note: In selecting materials, the dentist or teacher should appraise them according to the standards discussed earlier in this paper)

I. Professional organizations
   A. National and International (published in English)
      1. American Association of Public Health Dentists
      2. American Dental Association, Bureau of Public Relations. Catalogue and materials.
      3. American Medical Association
      4. American Public Health Association
      5. Canadian Dental Association. Catalogue and materials.
      6. Dental Board of the United Kingdom, London. Catalogue and material.
      7. International College of Dentistry and Medicine. Catalogue of films.
      8. Pierre Fouchard Academy. Dental Patient Series. Booklets.
   B. State Dental Societies
      1. Colorado. Sound film, "Danny's Dental Date."
      2. Southern California. Sound film, "It's Your Health."
      3. Other state organizations have produced other materials.
   C. Local Dental Societies
      1. Oral Hygiene Committee of Greater New York (Representing the First, Second and Tenth District Dental Societies). Booklets, books and leaflets, including "Radio Manual", "What's Your Score?" "Pearls of Dental Wisdom", and other materials.
      2. Other local societies also prepare and publish materials and catalogues.
      3. Local Health Councils, Health Centers, and Citizens' Committees, such as the Health Council of Greater New York, have prepared materials.
      4. Hospitals prepare materials for their staff and patients. For example; The Children's Hospital of Boston, Massachusetts, Department of Dental Medicine, has many slides for educating dentists in medico-dental problems in pedodontics.

II. Government (materials in English)
A. National and international
1. British Information Service
2. United Nations. Posters in English and other languages.
3. United States
a. Army Medical Museum. Slides, photo-micrographs.
b. Department of Commerce. Studies of dental economics.
c. Department of Labor. Children's Bureau. Booklets; financing of research; articles on research.
d. Farm Security Administration. Studies; booklets.
e. Public Health Service. Booklets, posters and films.
f. Other government agencies.

B. States

The Department of Health of almost every State has booklets and other materials. The listings below represent a sampling:
1. New Hampshire. "Toothy The Pup", "The Tooth Timetable" posters.
2. New Jersey. Catalogue and materials.
3. New York. Catalogue and materials.
4. North Carolina, Division of Oral Hygiene. Handbook having a complete bibliography of mouth health materials for children, arranged according to age of child.

C. Cities

Departments of Health create materials; for example, the Bureau of Dentistry of New York City, working with the Department of Health Education of the Board of Education has created and distributed materials for school children.

New York City radio station —WNYC—AM and FM allots radio time to dental education.

III. Schools and Universities

Departments of Pedodontics in various University Colleges of Dentistry have created materials for professional and patient education. For example, New York University College of Dentistry has produced exhibit materials, leaflets such as "Check Your Score", and "Dental Nursery Rhymes" for children, and "A Primer for Parents", and "The Baby Bite" for parents. For dentist education, they have prepared exhibits, model displays, a vertical file of slides and radiographs, and a motion picture film.

Some other universities which have created materials are: Columbia, Northwestern, Tufts, and the University of Pennsylvania.

Schools of Dental Hygiene have also created materials for patient education. For example, Columbia University School of Dental Hygiene.

IV. Publications
1. Reprints may be obtained of dental articles on Pedodontics for the layman which appeared in such magazines as *American Magazine*, *Colliers*, *Consumers Union Reports*, *Dental Digest*, *Filmnews*, *Life*, *Look*, *Parents Magazine*, *Readers Digest*, *Today's Woman*, and others.
2. Reprints of articles for dental education in Pedodontics may be obtained from the ADA Package Library Service, and from University Dental College libraries, as well as from the

New York Academy of Medicine and other medical and dental libraries.

V. Foundations
   1. The Kellogg Foundation. Audio-visual materials for patient and dentist education.
   2. Other foundations have created materials either directly or by contributions to universities. Reprints of scientific articles done under their grants are available in libraries.

VI. Industrial Dentistry

Dupont, Ford, and labor unions such as the I.L.G.W.U. have dental clinics for their employees and members, and prepare educational materials such as posters, pamphlets, and instruction sheets for them.

VII. Business and Industry
   A. General
      1. Clay-Addams Co. New York City. Models and slides.
      2. Columbia Dento-form Co. Models.
      3. Eastman-Kodak Co. Posters, booklets, films, slides, x-rays, photographs.
      4. Exhibitors' Advisory Council of New York. Films and slides.
      5. Insurance Companies, such as John Hancock, New York Life, and Metropolitan Life. Booklets.
      6. Magazines and newspapers. Feature articles and stories. Informative news articles and items.
      7. National Dairy Council. Materials on diet.
      8. Radio and Television Broadcasting Stations. Public service programs.
   B. Dentifrice Manufacturers
      1. Bristol-Myers. Booklets, leaflets, slides, posters, teaching guides, cardboard models, radio and television time.
      2. Church and Dwight. Booklets.
      3. Dentists Supply Co. of New York. Exhibit materials, booklets, educational service for training dentists and auxiliary personnel in patient education.
      4. Ritter Company. Booklets.
      5. E. R. Squibb. Pamphlets, Television programs for the technical education of dentists.
      6. Whitehall Pharmacal Co. Booklets, leaflets, films, radio time.

Materials for patient education obtained from the sources listed above as well as others which the individual dentist may create, should be used for the expectant mother, the parent, and the child patient to educate them, for an informed patient is likely to be a cooperative one. The dental student, dentist, and dental personnel, trained by means of audio-visual aids in addition to other methods of instruction, will not only benefit by learning more and remembering longer, but will also be likely to include audio-visual aids in patient education in their own offices and in their community health education work.

300 W. 23rd St.

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Review of Two Interesting Articles

DR. HUGH KOPEL

Editor's note:

Occasionally we read articles in other periodicals which we think may be of interest to our readers. We have asked Dr. Hugh Kopel, a member of our Michigan Unit, to synopsize some of these, and from time to time we will present his articles to you. You may address any correspondence about the articles to the Editor.

A.E.S.

"Evaluation of Developmental Factors Significant to the Field of Preventive Practice"; MACGREGOR, STEWART A., Northwest Dent., January, 1952, v. 31, p. 1.

This paper is concerned with palliative and preventive orthodontics that could be readily followed in any dental office. The general practitioner and pedodontist have the greatest opportunity to evaluate the development of the dentition during formative stages, more so than the orthodontist. The author diagnoses and suggests treatment for the following:

(1) Ectopic eruption of the six year molars that may or may not cause premature loss of the second primary molar which is found most frequently in the maxillae and ectopic eruption of the permanent lateral causing a premature loss of the primary cuspids, seen most frequently in the mandible. The use of wide elastic bands and copper bands is recommended.

(2) Premature loss of primary teeth. Many statistics on space closure are reviewed by Dr. MacGregor. The loss of space was found to be greatest during the first six months after the premature extraction of the primary tooth. Forty-five per cent showed the greatest loss in the second and third months. The premature loss of the lower primary anteriors might possibly influence the development of malocclusion. The greatest loss of space seems to occur when second primary molars are lost with resulting malocclusion, but approximately one third of cases where the first primary molar is lost prematurely will lead in closure of space and malocclusion. The proper timing for placing a space retainer is discussed. Every effort should be put forth to educate the parents as to the value of space maintenance.

(3) "Scissored incisors". The term "scissored incisors", here, is applied to a condition where one or more maxillary anterior teeth are occluding lingual to the mandibular incisors, yet the mandible and its dental arch are in normal mesiodisto relationship to the maxilla. This condition is more common in the permanent dentition than the primary. It would seem logical that the position of the upper anterior teeth as related to the lower anterior teeth might depend on such factors as (a) resorption of the primary roots, (b) growth and development, and (c) habits. The treatment plans for the correction of scissored incisors include tongue blades, cast jumpers, and the use of pressure methods by the child and mother.

"The Traumatized Non-Vital Anterior Primary Tooth", ELLERTON, CARL H. JR., Journal of the California State

Dental Association, v. 27, July–August, 1951, p. 193–195.

The management of non-vital primary anteriors due to trauma is very frequent in a practice that accepts young children. Attention is usually called by the discoloration which is due to the presence of broken down blood elements. Observation of six to eight weeks is needed to determine whether the pulp will recover or become non-vital.

Following the determination of a non-vital diagnosis the question of treatment is then discussed. Ellerton takes a negative view to the oft repeated advice to parents—"No treatment necessary now, but if a 'gum boil' develops, we can extract or treat the infection".

Following traumatization, four types of sequelae may appear.

(1) The tooth will return to normalcy without discoloration remaining.

(2) The tooth will appear to return to normal, but over a period of time, secondary dentin will build up to such an extent that the pulp chamber is virtually eliminated. This is accompanied by a yellow discoloration of the crown due to a change in light refraction caused by excess dentin. The tooth shows no pathosis and the root absorbs normally.

(3) The tooth becomes discolored and the root resorbs abnormally. A slight swelling can be felt over the apex and a radiolucent area is visible by x-ray. No fistula is present.

(4) The tooth becomes non-vital and the necrotic pulp tissue provides an excellent culture medium for wandering bacteria in the blood stream. These organisms set up an infection with resultant abscess, pathological resorption of the root and a draining fistula. This may occur within a few months after injury or may follow some time later after a tooth such as described in category three is retraumatized.

Ellerton says that it has been observed that extracted teeth of the third category mentioned, have pus filled pulp canals and recent bacteriological tests showing radiolucent areas at the apex with no fistula have resulted in positive cultures.

Aside from the presence of infection, these non-vital teeth may cause problems in eruption of the permanent successors. Since the greater percentage of these injuries occur at the age of one and one-half to two and one-half when the child is learning to walk, the period of expected use of the anterior tooth is far too long to accept extraction as a treatment unless absolutely necessary. The treatment of choice would seem to be a pulpectomy. The author then outlines a treatment program for carrying out a successful pulpectomy, which can be performed in three treatments.

Technique for Constructing a Simple "Crib Appliance"

WILLIAM P. HUMPHREY, D.D.S.
Denver, Colorado

Editor's note:

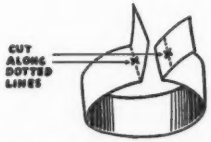
The accompanying illustrations were sent to us by Bill Humphrey with the following note "This will always work if the child wants to stop a finger, lip or tongue habit and merely needs a reminding aid. If a child fights this, he will fight a larger crib, too!"

The appliance can be made rapidly, at one sitting, from ready made bands or crowns, or on bands which you fabricate yourself.

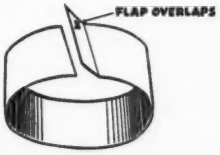
We've tried this appliance in our own office, using the S.S. crowns devised by Bill and manufactured by one of our advertisers; we found it easy to make and successful for the case at hand.

A.E.S.

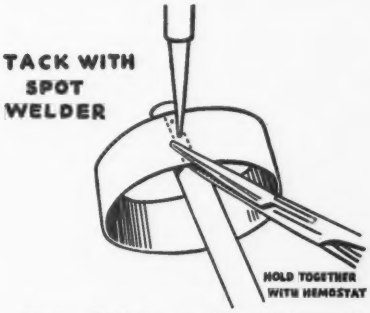
STEP 1. Crimp the band on either labial or lingual.



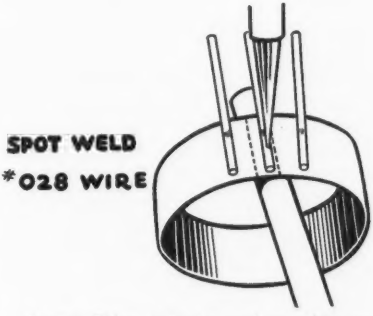
STEP 2. Make flap for spot welding band.



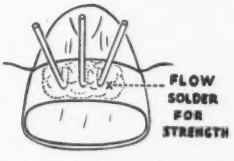
STEP 3. Flap ready to fold over.



STEP 4. Hold flap together with hemostat, tack with spot welder or solder.



STEP 5. Using .028 wire, tack or solder on three or four lingual lugs, which will extend back into the mouth after bending.



STEP 6. Bend the lugs as shown. Flow solder over area, for added strength.

Orthodontic Approach to the Interception and Treatment of Oral Habits in Children*

J. A. Salzmann, D.D.S.
New York, N. Y.

Editor's note:

J. A. Salzmann is a graduate of the University of Pennsylvania, 1923. Formerly associated with the late Dr. Martin Dewey, he now practices orthodontics in New York City.

Editor of the N. Y. Journal of Dentistry, he has also authored three textbooks, most widely known of which is "Principles of Orthodontics," now in its second edition. He has lectured in many cities of the United States, Canada, Mexico, Cuba, Brazil, Argentina, Chile, Peru and the Dominican Republic, and is a member of numerous research and scientific groups.
A.E.S.

At the White House Conference on Children and Youth, held in December, 1950, it was pointed out that, in addition to professional knowledge and technical skill, those concerned with the health, welfare and education of children must possess also wide training in human relations if they are to achieve their maximum contribution in their chosen field of endeavor. The dentist who practices for children is included in the foregoing category. It would be of untold value to the practitioner and to child patients if the dental colleges made a serious attempt to ascertain the personality endowment of students, with regard to their basic fitness to treat children. There is no doubt that some dentists are not fundamentally endowed to handle child patients.

Assuming that we are dealing with a group of practitioners which is not only interested in the treatment of children but which is temperamentally equipped for the job, led us consider some of the factors which enter into the successful treatment of oro-dental habits which affect the occlusion of the teeth and dento-facial development.

There are at least two questions in this connection which need no further pleading before those who have a special interest in dentistry for children. One is the accepted fact that "oralization" or the "oral stage" of development in the infant is a normal phenomenon which, under certain circumstances, may express itself in an abnormal manner and, indeed, may become a symptom of abnormal development of the child's personality. This does not necessarily mean that the oro-dental habits of some children must of necessity always be related to personality involvements. There may be questions of example in which the child imitates a parent, older sibling, other relative or friend after whom, consciously or unconsciously, the child is attempting to pattern himself.

The second question is related to the effects of the oro-dental pressure habits on the facio-dental component. It stands to reason, and it has frequently been

* Read before the American Society of Dentistry for Children in Washington, D. C. October 13, 1951.

pointed out, that if the orthodontist can effect changes in the occlusion of the teeth and frequently also in facial appearance by means of pressure emanating from mechanical appliances, the child applying frequent force in the form of dentofacial pressure habits can also effect changes in these areas. Changes so induced may be of a benign nature or they may result in facial imbalance and malocclusion of the teeth.

Any force intended to change the position of teeth must be strong enough to affect the equilibrium of the periodontal membrane to which the tooth is attached. It is because of the quest of the periodontal membrane to regain its equilibrium that the tooth, incidentally, as it were, changes its position. Furthermore, in order to affect facial appearance, or the dental occlusion, the force exerted has to be stronger than the component of force which the facial bones are prepared to withstand. If this were not so, the face of man would be in a constant state of startling change, like the face of an elastic toy which changes grotesquely on the application of the slightest pressure.

If we deny to external pressure habits the ability to change the facial morphology then we are in effect saying that Wolff's law is without standing. We know that the contrary is true. Wolff's law is accepted as basic in biophysics.*

There are certain circumstances, however, which affect the extent of change that pressure habits can induce in the oro-facial region. Among these we can include the frequency with which the habit is practiced, the duration of time that the habit has lasted, the osteogenic development, the genetic endowment and the general state of health of the child. These are important contributory factors in determining the presence, type, and severity of the resulting malocclusion.

Where conditions favor changes in the supporting bones of the teeth, the pressure caused by the thumb, fingers, tongue, or lip will produce changes of a malocclusal nature. When the maxillary incisors are displaced in a forward direction, the alveolar process, which is the support of the teeth, also becomes displaced and enlarged. If the lower lip falls lingual to the maxillary incisor teeth, it continues their forward displacement. Furthermore, continued pressure of the hand against the chin during the fingersucking process may well produce a change in the overall direction of growth of the mandible or displace it bodily in a distal direction.

Most children at the pre-adolescent age are ready to accept orthodontic therapy in general, or specific therapy for the purpose of eliminating oro-dental pressure habits. The orthodontist has to establish first a sympathetic *rapport* with the patient. This is difficult for those who do not have an essential fondness for children. The child senses the difference between real and feigned friendship. The presence of the parent in the operating room may occasionally have a steadying influence on the patient. Otherwise, the parent should be excluded. In any event the dentist should give the parent a chance to tell her story. The child in the chair is engaged in casual conversation until he becomes relaxed. The harmful effects of the habit are explained to the child and the question is put to him squarely as to whether he wishes to stop the habit. If he does you can show him how, and help him to stop it.

If the child is amenable to this line of reasoning, and if the parents will cooperate with the orthodontist during the

* (Ed. note: the law that all changes in the function of a bone are attended by definite alterations in its internal structure and external conformation.)

course of treatment, actual orthodontic therapy is started. It may be prudent, at times, to postpone treatment until the child is able to feel the need for orthodontic procedure.

The orthodontist must exercise patience. If the orthodontist loses patience, the child is placed on the defensive and his confidence in himself and in the orthodontist is diminished. Patience in listening to the child makes the job of the orthodontist easier to accomplish. The child cannot be rushed into things if he does not present himself ready to go ahead of his own volition.

The act of swallowing which is taken for granted as a self-attained reflex is often perverted in children and adults and is frequently responsible for the establishment of malocclusion. Atypical swallowing is attended by perverted muscular function which produces changes in jaw development and malocclusion. Typical swallowing takes place with the jaws and teeth brought together and the tongue thrust against the area comprised by the lingual surfaces of the occluded teeth and the palate. The tongue functions best during the swallowing act when its tip and sides can be braced against the rigid hard palate and the occluded teeth. In atypical swallowing, also referred to as "infantile" swallowing, the tongue is thrust between the partially separated dental arches, it seeks to brace itself against the lips which are in turn contracted and made rigid with the aid of the mentalis muscle. Rix found over 80 per cent of atypical swallowers to show malocclusion of the teeth. Atypical swallowing and tongue-thrusting are difficult to overcome. The earnest cooperation of the patient and parent is of utmost importance in breaking these habits.

In addition to their effect on the occlusion of the teeth, continued thumb sucking and finger sucking have been blamed for producing various pathologic conditions in children, such as gastrointestinal disturbances, respiratory infections, and stomatitis. Backwin states that children who persist in sucking their thumb after the fourth month of life may be looked upon as finger suckers, and that excessive practice of the habit may be regarded as an indication of an unsatisfactory personality adjustment. Tongue and lip sucking or biting may have the same psychogenic origin as finger sucking, and are frequently seen to occur in restrained finger suckers.

Schachter and Cotte reported nail biting (onychophagy) in 100 children, aged 6 to 19 years. They found that 13 per cent had suffered from early convulsions, 9 per cent from premature eruption of the dentition, 20 per cent from nocturnal enuresis, 34 per cent from slight mental deficiency, and 26 per cent from serious mental deficiency. The habit is a condensed manifestation of multiple motives and deficiencies. It is necessary to study the child's physical, mental, and social difficulties if the roots of the habit are to be removed. However, some nail biting of a transitory nature frequently in imitation of other children, is found commonly in early adolescence. Arousing a new interest in the fingernails such as the application of fingernail polish has been found helpful in girls. Boys may be appealed to on the basis of good sportmanship or reward for effort in sparing the nails of an increasing number of fingers. The study of the psychoneurotic make-up of the child is of great importance.

Mouth breathing may persist as a habit after nasal obstruction has been removed. Nasal breathing should be practiced after strenuous exercise. Masseter-temporal and other exercises de-

scribed by Rogers should be instituted. Purposive mouth breathing, finger sucking, or lip biting in front of a mirror (the Dunlap Beta method) may be employed to bring the habits into the consciousness of the child.

Providing the infant with a teething ring during the latter half of the first year may help to abort the thumb- or finger-sucking habit. Levy found finger sucking to be more common among infants who were fed at more widely spaced intervals, although Gesell and Ilg have shown that inadequate sucking is not a primary cause in pathogenic finger sucking. Bitter substances on the fingers may be used with the consent of the child as a reminder not to suck the thumb or finger.

With the cooperation and consent of the child, an appliance may be inserted into the maxillary jaw which interferes with the insertion of the thumb, finger, or lip in its accustomed place. Such appliances which employ spurs, whether stationary or removable, have been described in orthodontic literature.

The use of an oral screen at night has been advocated for overcoming pressure habits. The screen can be made of plastic or metal. It is fitted to the oral vestibule between the lips and the teeth and gums. To construct the screen, impressions are taken of the upper and lower dental arches, making certain that all of the vestibular surface to the mucobuccal fold is included. Casts are poured and related as near to normal occlusion anteroposteriorly as possible by bringing forward the mandibular cast. The screen is constructed of two thicknesses of wax, extending from the maxillary to the mandibular buccal fold, skirting the muscular frenums, and going as far distally as the distal cusp of the permanent first molars. The waxed screen is then pulled slightly away from the buccal dental segments and made to rest on the protruding anterior teeth. If the screen is to be used also for lip exercises, a wire ring is inserted on the labial surface at the level of the edge of the upper lip.

Re-establishment of normal muscle tone of the lips usually follows the orbicularis oris exercise by means of the screen. Insertion of the screen should be made by the child himself.

It is well for the dentist to remember that the threshold of response to pain and discomfort is not the same in all patients. What may appear to the dentist to be undue complaining by the patient may be the real response of the patient brought about by mental as well as physical discomfort, although the same operation may not be quite as objectionable to other patients. The child who requests a hand mirror so that he can see "what is going on," should be given a mirror if it is apparent that denial of the request will lessen the cooperation. It will soon be found that the child tires of the mirror and forgets to use it.

The orthodontist must speak to the child in a friendly but authoritative manner, without hesitation. The orthodontist's treatment suffers in effectiveness if his attitude to the child becomes intolerant and resentful. To the contrary, a too friendly, social attitude leads to over-familiarity.

Cooperation of the parents is a recognized factor in all fields of endeavor related to child health and welfare. Parents should be encouraged and guided to better relationship with their children. Too much stress has been put on parental deficiencies. The parents are part of the "team" consisting of the patient, orthodontist and parents. The parents must be told that their constant reminders to the child to desist from practicing habits not only are

of no avail, as they may already have learned by experience, but that their constant nagging actually tends to undermine parent-child relationship and interferes with the successful treatment and elimination of the habit. We should remember also that blind obedience is not usually to be expected of children.

To the best of his ability, the orthodontist should try to foster a kindly child-patient relationship with regard to the habit, and in other respects. The parents' aid should not be enlisted for the purpose of "policing" the child and his treatment since this tends to increase child-parent tensions.

For too long the frame of reference of the dentist has been rooted in mechanics. The frame of reference in attempting to eliminate or prevent the harmful effects of oro-dental habits is not the habit, the malocclusion or the appliance. It is the child as a person. The dentist has been accustomed to examine the mouth purely from the standpoint of the technical procedures to be applied in restoring the teeth. This has held true also for practitioners of orthodontics, and that approach is not quite extinct today. While much thought, time and attention is paid to growth, development and the psychosomatic approach in their general aspects, the actual treatment of the individual child still frequently resolves itself into the application of mechanical measures in the form of appliances, without due thought to the former.

Orthodontic approach must be based on biophysics and psychosomatics and not on pure mechanics. There is no known "system of appliances" which is so perfect that the practitioner can afford to neglect the primary axiom of those dealing with children—Know the Child.

American Society of Dentistry for Children

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An Evaluation of Calcium and Phosphorus Medication in Dentistry

Q.—Do calcium and phosphorus improve tooth formation?

A.—It is useless to attempt to improve the structure of erupted teeth by means of calcium and phosphorus preparations. There is no body mechanism by which these minerals can be incorporated into the enamel of fully formed, erupted teeth, even if they were assimilated by the body. From birth to seven or eight years of age is the important period for the structure and composition of enamel. The first three years of life are especially significant with respect to the first permanent molars. A well-balanced diet may help to secure well calcified teeth during this formative period. The teeth, once they have calcified, have just as good or just as bad a structure as they are going to have for the rest of their life.

Q.—Do calcium and phosphorus prevent caries?

A.—It often has been suggested and even stressed that the additional supplement of calcium and phosphorus to the so-called adequate diet would prevent or arrest dental caries. There is no direct positive evidence at present, either from the laboratory or the clinic, to substantiate a correlation between calcium metabolism and caries in the child or the adult. Neither does the addition of these minerals to the mother's diet promote the development of teeth in utero that will be caries-resistant. On the contrary, there is evidence that such medication is unnecessary.

Q.—Does salivary potassium have any relationship to caries?

A.—Many data have been reported from studies of the chemical composition of saliva and the relationship to dental caries. In studies which involved calcium, phosphorus, carbon-dioxide capacity, pH, ammonia content and diastatic activity, no difference was shown between the saliva of the caries-free and the caries-susceptible individual. There is, however, very little information in the literature about salivary potassium and its relationship to caries. White, in 1937, found a very striking correlation between the potassium content of the saliva and caries. Caries-free individuals had a low potassium content (below 45 mg. per 100 cc of saliva) while those who had caries had a high potassium content (above 55 mg. per 100 cc of saliva). It seems unusual that this study has not stimulated further investigation during the eight year interval but no confirmation could be found. Awaiting further research, no definite answer can be given to the question.

Q.—Does the calcium-phosphorus ratio in saliva or blood affect caries?

A.—Many studies are recorded in the literature about the calcium-phosphorus ratio in saliva as related to caries. Becks' work seems to be the most extensive and most reliable. He has been unable to establish any correlation between the calcium and phosphorus content of the saliva and caries-free or caries-active individuals. The literature on calcium-phosphorus ratio in the blood and its relationship to dental caries is not quite so revealing. The few studies that have been reported indicate that there is no direct relation between the teeth and the serum calcium and phosphorus.

Q.—Do calcium and phosphorus help prevent malocclusion?

A.—This specific question is bound up in the general question of nutrition. Rickets, a nutritional deficiency disease, is essentially a disorder of calcium and phosphorus metabolism. A critical examination of the question of malocclusion as a direct manifestation of rickets reveals that there is no essential relation between rickets and the form of the jaws or the position of the teeth. In support of this conclusion, one would expect to find an increased prevalence and an accentuation of mal-

occlusion when nutritional conditions are worse than usual, as, for example, in the Central European countries during World War II. No evidence, however, has been produced to indicate that an increase did occur.

Q.—Does the calcium-phosphorus ratio in saliva or blood affect gingival disease?

A.—On this question there is a paucity of information in the literature. In Day's report of oral conditions in the famine districts of India, perhaps, is found the best answer. He attributed the very high incidence of hypertrophic gingivitis, at least in part, to long-continued specific dietary deficiencies. In commenting upon these deficiencies he stated specifically that the mineral salts, calcium and phosphorus were very inadequate, and frequently absent altogether. Milk, meats and green vegetables were to be had in very negligible amounts, and in some localities, not obtainable in any quantity.

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An Evaluation of the Usefulness of Fillings in the Reduction of Caries Attack

Q.—Does the filling of teeth reduce the dental caries attack rate?

A.—Opinions vary regarding the relationship of filling teeth to the reduction of the dental caries attack rate. In a report by Franzen, et al, it has been ascertained that, no matter what dental service children have received, children of comparable age have about the same amount of caries experience. Further, no matter what treatment, if any, is given to an individual tooth, the forces of caries will not be reduced in the other teeth. Teeth that are going to be attacked by caries will become carious regardless of the filling of remaining teeth. The proper filling of a tooth, however, will preserve the health of that individual tooth.

Q.—Will the examination of just one permanent molar to note its caries experience serve as a reliable evaluation technic?

A.—The examination of the first permanent molar for caries experience has been suggested and used by competent observers as an evaluation technic for testing the efficiency of a dental treatment program by noting whether this molar has been saved or lost.

A study of the "odontothanototic" rates employed by Klein and Palmer or the "lost permanent tooth index" of Wisan demonstrates the value of the examination of the first permanent molar as an index of the benefits to be derived from a dental service program. It has been shown consistently that the first permanent molar is, by far, the tooth most frequently lost through caries, accounting for almost 90 per cent of the total tooth mortality in children. Therefore, the examination of this one permanent molar to note its caries experience can serve as a reliable evaluation technic for a dental treatment program.

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3

American Society of Dentistry for Children
Silver Anniversary Meeting

MELBOURNE HOTEL—ST. LOUIS, MISSOURI

September 6 and 7, 1952

PROGRAM

Saturday, September 6, 9:00 a.m. to 11:30 a.m.
Colonial Room
Meeting of the State Unit Delegates
George W. Teuscher, President-Elect, Presiding

Saturday, September 6, 12 Noon
Alexander Room
President's Luncheon, honoring Essayists, Clinicians, and Committee Chairmen.

Greetings: Earl Bean, President of the Missouri Unit.
Address of Welcome: Earl L. Lampshire, President of the American Society of Dentistry for Children.

Saturday, September 6, 1:30 p.m. to 5 p.m.
Colonial Room
Scientific Program

"Oral and Facial Development, Preventive and Corrective Appliances."
Dr. Ruth Martin, Chairman, Presiding
Dr. L. B. Higley—"Oral and Facial Development"
Dr. B. L. Gainsforth—"Space Control"
Dr. Woodrow O'Brien—"The Effect of a Dental Speech Aid on the Intelligibility of Speech"
Miss Mildred McGinnis—"Influence of Oral Structures on Speech Intelligibility"

Sunday, September 7, 9:30 a.m. to 12 Noon
Alexander Room
Table Clinics
Twenty personalized presentations of scientific and practical aspects of dentistry for children.

Sunday, September 7, 1:30 p.m. to 5:00 p.m.
Colonial Room
General Business Meeting and Election of Officers.

Sunday, September 7, 6:00 p.m. to 7:00 p.m.
Alexander Room
Cocktail Hour

Sunday, September 7, 7:00 p.m.
Colonial Room
Silver Anniversary Banquet
"THE FIRST TWENTY-FIVE YEARS"
Walter C. McBride

Wives, Dental Hygienists, Dental Assistants and members of the A.D.A. are cordially invited to attend the Banquet. Dress is informal.

The Oral Screen*

MAURY MASSLER, D.D.S., M.S.
Chicago 12, Illinois

Editor's note:

Maury Massler is one of the best informed and fluent teachers of pedodontics in the world today. He is in demand as lecturer and clinician because he knows whereof he speaks and delivers his message smoothly in excellent English interspersed with observations which bring his classroom and technical knowledge right into the dental office, where his usual audience wants it to be! I guess you know by this time that we like the guy—and respect his ability!!

The following article was presented before the American Academy of Pedodontics some time ago. We heard Maury present it—and have been after him since then, to get it ready for publication, because it should be of great interest to our readers.

A.E.S.

N.B.

You will note that Tom Barber is the illustrator of Maury's article. Tom practices pedodontics in Suburban Chicago and is associated with Tony Malone. He received the annual Nell Snow Talbot Instructorship Award on June 4th at the University of Illinois College of Dentistry and the freshman class voted him the outstanding instructor for the year 1951–1952. The award is in the form of a small golden apple which symbolizes teaching ability, fairness, and the knack to inspire students to higher scholarship. Congratulations, Tom!

A.E.S.

* Drawings by Dr. Thomas K. Barber.

THE ORAL SCREEN

THE oral screen is a piece of fitted material which rests in the labial and buccal vestibule and thus prevents the passage of air through the mouth. It is usually worn at night to correct the tendency to habitual nocturnal mouthbreathing. For this purpose, it is probably the most efficient device yet constructed.

The oral screen (also called mouthscreen or vestibular plate) may be made of any material compatible with oral tissue—metal, rubber, or plastic. Polystyrene is an excellent material because it is easily and quickly fabricated and it is clean and compatible with the oral tissues.

The device is used extensively in Europe and in Australia (James, 1913, 1921; Northcroft, 1914; Izard, 1930; Dickin, 1934; Bliss, 1943; Nove, 1946; Caseley, 1947; Giacometti, 1947; Sprawson, 1947; Matthews, 1948; Sclare, 1949; Day et al, 1949) but has not often been employed in this country (Darby, 1890; Newell, 1913; Gromme, 1940; Robertson, 1946; Brauer et al, 1947; Moore, 1949, Salzmann, 1950). We have used the oral screen in more than fifty cases with excellent results.

The action of this appliance is *natural*. The source of the force is the pressure of the labial musculature transmitted upon the teeth.

Indications

a. *To Restore Nasal Breathing (Passive Screen)*. The primary purpose of the oral screen is to correct habitual (nocturnal) mouthbreathing which may per-

sist after adenoidectomy (Sprawson, 1947; Matthews, 1948). The screen is passive and rests only in the vestibule. It does not touch the teeth.

b. *To Intercept Premaxillary Protrusion (Active Screen).* The active screen rests on the upper incisor teeth instead of only in the vestibule and is of value in intercepting maxillary incisor protrusion (such as occurs in Class II, Division 1, malocclusion). The active oral screen should be used early, *during* the eruption of the upper incisors. In such cases, it is less a corrective appliance than a guiding appliance, i.e., it guides the erupting incisors into correct position. The ideal age for its use is therefore from 6 to 12 years. It is especially effective when diastemas exist between the teeth and when the labial musculature is hypotonic.

c. *As an Adjunct to Orthodontic Treatment.* The active oral screen may be used as an adjunct to the orthodontic treatment of Class II, Division 1, malocclusion. When used in conjunction with a complete orthodontic appliance, it shortens the treatment and corrects the etiologic factors involved (mouthbreathing and hypotonic labial musculature). It may also be used as a retainer following the correction of maxillary incisor protrusion (Bliss, 1943).

d. *Other Uses.* The oral screen may be used as a device to interfere with other nocturnal oral habits, such as finger sucking or tongue thrusting. The oral screen presents a mechanical barrier either to the initiation of these habits or to their successful completion.

Contra-indications

a. The oral screen should never be used until the child has been tested for adequancy of nasal function by the dentist or the rhinologist. Consultation with the latter is very desirable in all cases.

b. The oral screen is usually contraindicated in children who are unable to cooperate, i.e., children under three years of age and children with mental deficiency.

c. The oral screen is not indicated at any age if for any reason it is not wanted by the child, for the efficacy of this appliance rests largely on its acceptance by the patient and his cooperation.

Construction of a Plastic Oral Screen

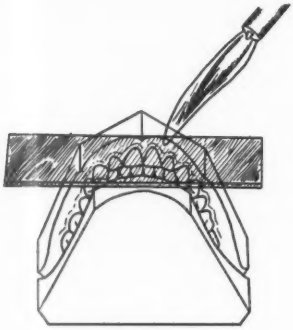
The following technic describes one method of constructing a very effective oral screen from polystyrene in less than an hour. It involves a minimum of material and cost, and a maximum of efficiency, esthetics, and cleanliness.

Casts. Full-mouth casts are required for the construction of the oral screen. They will not be injured and can be kept for a permanent record of the progress of the case.

Wax pattern. Place the casts, in occlusion, on their posterior bases, the anterior segments upward. If the upper incisors are protruded, move the lower cast anteriorly until the incisor segments are in correct relationship. The molars will usually be moved from a Class II to a Class I relation (figure 1).

Soften a piece of pink base-plate wax in warm water, lay over the cast and trim (figure 1). Trim the periphery of the base-plate wax so that the edge reaches the muco-buccal fold in the closed-mouth position. During sleep the teeth are apart (in rest position) and the periphery of the oral screen will reach only to the mucogingival junction and will not impinge upon the delicate oral mucosa. Underextension of the periphery will allow it to slip out of the mouth during sleep (especially in those with vigorous tongue-thrusting habits).

Cut a deep notch for the upper (and



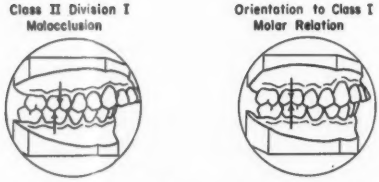


FIG. 1. Adaptation of Pink Wax Sheet to Study Model

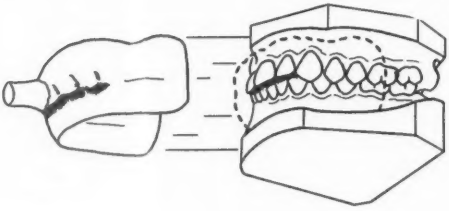


FIG. 2. The Wax Pattern

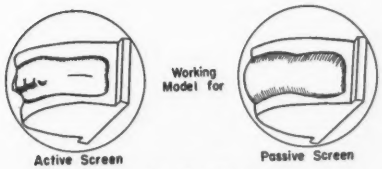


FIG. 3. Pouring the Working Model

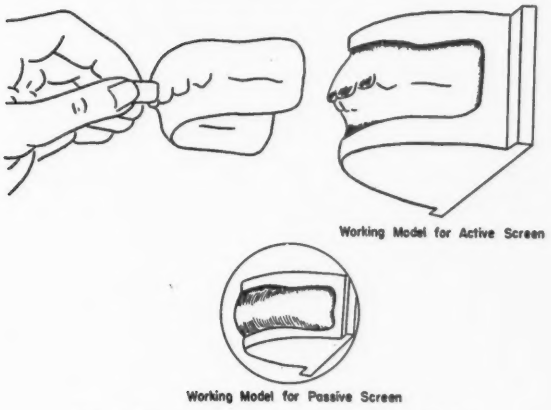


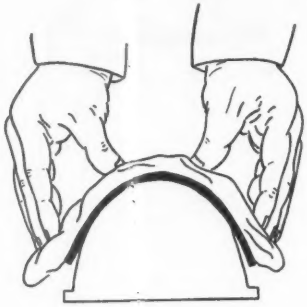
FIG. 4. Removing Wax Pattern for Working Model

lower) labial frenum in the central incisor and cuspid areas. Carry the posterior border to about the first molar area. Round all edges.

Attach a wax handle to the center of the wax pattern (figure 2).

Working model. Chill thoroughly to avoid distortion and remove the wax pattern from the cast. Holding it by the wax handle, fill the inner aspect with a fast-setting plaster (figure 3). Place in a boxed mix of plaster on a glass slab and allow to set (figure 3). Remove the wax pattern and examine the working model carefully. Check all areas to make sure that *only areas to be contacted by the oral screen* show on the working model (figure 4).

Material. The material used in the construction of the oral screen is a sheet or strip of polystyrene $\frac{1}{8}''$ or $\frac{3}{16}''$ thick. Polystyrene is a low-heat thermo-plastic and softens readily over a Bunsen flame. It can be obtained from any local plastic material supply house in small sheets at moderate cost.



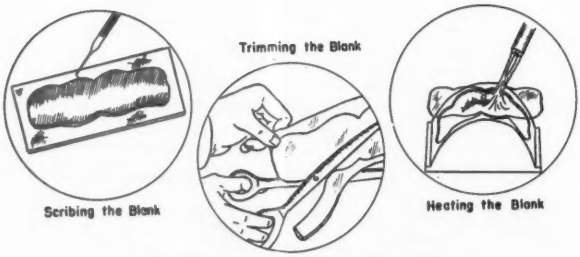


FIG. 5. Adapting the Polystyrene Blank

Polystyrene blank. Soften the original pink wax pattern in warm water, straighten it out and lay it flat on a sheet of polystyrene (figure 5). Scribe the outline of the wax pattern on the polystyrene blank with a sharp instrument. The outline can then be easily cut out in the plastic material with a jo-dandy disc. If preferred, the sheet of polystyrene can be softened to a rubber-like consistency

over a Bunsen flame and the pattern cut out with ordinary scissors (figure 5).

Adaptation. Heat the polystyrene blank gently over a Bunsen flame to a rubber-like consistency and place over the working model. Continue to heat the blank evenly and gently with an inverted Bunsen flame until it softens sufficiently to mould over the cast (figure 5). Always apply the flame evenly and gently. Do not overheat—the material can be made to burn. Place a towel over the softened polystyrene and adapt with the fingers to the cast (figure 5). Keep a constant pressure on the oral screen until the polystyrene cools and hardens since the material has an "elastic memory." Reheat if necessary for more perfect adaptation.

The material hardens quickly. The edges are very easily polished on a rag wheel. It is hard, clean and will not absorb moisture.

Action on Upper Anterior Teeth. The exact adaptation of the oral screen to the cast depends entirely upon the purpose of the screen. It must never be adapted too closely to the free gingivae or the lower anterior teeth but should lie free from these areas.

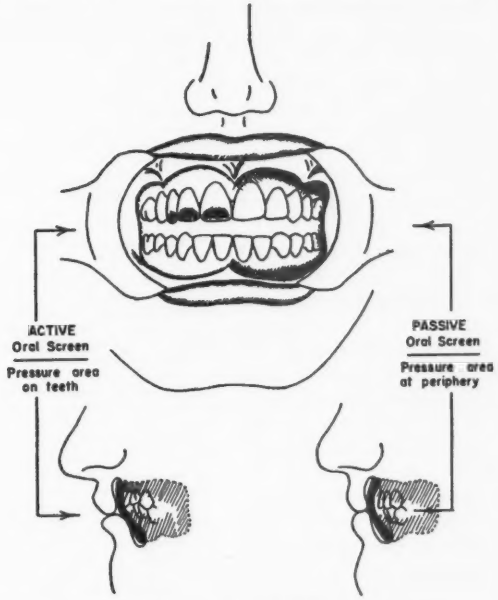


FIG. 6. Oral Screen in place

a. Passive Oral Screen. If no malocclusion exists and the oral screen is to be used passively only to prevent mouth-breathing at night, only the periphery of the screen should rest upon the attached gingivae (figure 6). It should not rest upon the teeth at all. The working model should therefore show no impression of

the teeth (figure 3). Thus no tooth movement will result.

b. Active Oral Screen. If the upper incisors are protruded and *diastemas exist between these teeth*, the oral screen should bear primarily on those teeth which should be moved palatally (figure 6). This is accomplished by pressing the wax pattern firmly over the teeth to be moved so that the working model shows the upper incisors boldly; the other teeth not at all (figure 2). Another method is to relieve the working model at the areas where pressure is desired. *The models should be placed in corrected (Class I) molar relation before making the wax pattern so that the excessive anterior* overjet is eliminated in the oral screen (figure 1).

Check the exact areas of contact and the amount of pressure in the mouth. This is very easily accomplished through the clear plastic.

Instructions to the Patient. Instruct the patient to wear the oral screen for three successive nights. Advise him that it will undoubtedly be uncomfortable the first night and explain that if sore spots develop, he should come in for an immediate adjustment. If there is no difficulty, the patient should return in three days for a check-up and minor adjustment of the appliance.

The oral screen is a clean, simple device with definite advantages as a pedodontic appliance. It is inexpensive to fabricate and can be used for a number of purposes. It is physiologic in its action and therefore cannot readily be misused.

"Deep Breathing" and Lip Exercises. Deep breathing and lip exercises are very useful as daytime supplements to the oral screen which is worn only at night. Deep breathing exercises help considerably in the restoration of nasal breathing and the elimination of habitual mouth-breathing. The lip exercises facilitate the retrusion of protruded upper incisors. A finger device can be added to the oral screen to enable the child to exercise the labial musculature and to thus increase muscle tonus (Salzmann, 1950).

808 S. Wood St.

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Around the Country

West

Past President Hugo M. Kulstad has resigned his position as Chief of the Division of Dental Health in the California State Department of Public Health, a position he held for four years. Hugo is now Co-Chairman of the Southern California State Dental Association Committee for the promotion of BRUCE R. KURTZ for President-Elect of the American Dental Association. Anyone interested in this committee's activities should address communications to 903 Crenshaw Boulevard, Los Angeles 19, California.

* * *

Dr. Kenneth A. Easlick presided over the Fifth Annual Meeting of the American Academy of Pedodontics, held at the University of Washington, Seattle, Washington, June 25, and 26, 1952.

The following A. S. D. C.ers were on the program—Maury Massler, John Brauer, Bernard Rabinowitch, Joseph Hartsook, Paul Taylor, William Demeritt, Joseph Cabot, William Brown, Virgil Cheyne, David Law, Samuel Stulberg and Henry Wilbur.

Dave Law arranged a moonlight cruise aboard a privately chartered ship, "Silver Swan," taking the party around Lake Washington, the Government Locks, and into Elliot Bay to see the Seattle skyline at night.

* * *

The Ninth Annual Seminar for the study and practice of dental medicine will be held at the Desert Inn, Palm Springs, California, October 26 through 30, 1952. Dr. Herman Becks, President and Founder of the Seminar, has arranged a lecture-packed program. Applications and full information on the Seminar program may be secured by writing Miss Marion G. Lewis, Executive Secretary, Room 200, Hooper Foundation, University of California Medical Center, San Francisco 22, California.

* * *

Mid-west

A. S. D. C.er Leonard Rosen gave up a nice practice in Missouri to join Uncle Sam's Army on May 10, 1952.

* * *

Dr. Ruth Martin of Washington University, St. Louis, addressed the Arkansas State Meeting and was very well received.

* * *

Dr. Earl Bean entertained the Missouri Unit of the A. S. D. C. at a picnic at his home on June 21.

* * *

Dr. Herbert L. Hayward of Kansas City, Missouri, one of the outstanding teachers in the profession, presented two lectures on May 12 and 13 at the Kansas State meeting. His talks were entitled "Pedodontics for the General Practitioner."

* * *

A. S. D. C.er Tony Malone presented "Clinical Management of Rampant Caries" at a recent meeting of the Northwest Study Club at Desplaines, Illinois.

* * *

Omaha orthodontists who attended the Orthodontic Convention in St. Louis included Doctors Cecil Muller, Merlin Spain, Elmer Bay and Arlo Dunn.

Several A. S. D. C. members from

Michigan attended the Orthodontic Convention in St. Louis—Roy Brooks, Hersh Reynolds, Pat Kinder and Hilliard Hicks.

* * *

A. S. D. C. member George S. Harris of our Michigan Unit was guest speaker at the May 6 meeting of Detroit Dental Assistants. His topic was "Orthodontics."

* * *

Doctors Robert Coleman, Milton Lappin and Louis Braun also of our Michigan Unit, attended the meeting of the Chas. H. Tweed Foundation of Orthodontic Research in Chicago, April 13 to 16.

* * *

Editor Al Seyler participated in a School Child Health Symposium on May 29, 30, 31 at Pennsylvania State College. (Milton Eisenhower is President there.) Al's assignment was to cover an adequate dental program for children. Some 250 educators from the State were in attendance, including A. S. D. C.ers Elizabeth Beatty, J. Oppie McCall and Walter Weisz.

* * *

A graduate study program leading to the degree of Master of Science in Pedodontics has been established at the University of Minnesota. Fellowships and teaching assistantships are available for a limited number of graduate students. For further information and applications write the Dean of the Graduate School, University of Minnesota.

* * *

A refresher course in Pedodontics was again offered at the University of Nebraska College of Dentistry from June 9 through 13. Faculty members included four A. S. D. C. members from Nebraska: Doctors Ireland, Lampshire, Hunt and Thompson.

* * *

Dr. Laren Teutsch announces the association of Dr. James Heurter in his offices at 4201 Farnam Street, Omaha. Jim graduated from Creighton University this year and was crowned "King Creighton" at Creighton University's 28th annual Junior-Senior Prom. We are sure that Jim will make a prominent A. S. D.-C.er in a few years.

* * *

South

Emory University School of Dentistry held a postgraduate course in Dentistry for Children on June 2 to 4. Dr. George W. Teuscher, Chairman of the Department of Pedodontics, Northwestern University, was a guest lecturer.

* * *

Southeast

Dr. John Brauer, Dean of the University of North Carolina School of Dentistry, announces the appointments to the full time faculty in Pedodontics as follows: Dr. Willie W. Demeritt, Professor and Head of Department; Dr. Joseph F. Burket, Associate Professor; Dr. Roy L. Lindahl, Assistant Professor. In addition to the above Dr. Brauer continues as Professor of Pedodontics on a part-time basis.

* * *

Dr. Demeritt, since the first of the year, has appeared on several programs including Chicago Midwinter, Alabama State, Tennessee State, North Carolina State, Illinois State, and a number of District societies in North and South Carolina. It sounds like Willie has had a busy year!

* * *

Dr. Brauer, in recent months, has appeared on programs in Cleveland, Philadelphia, Washington, D. C., the Tennessee State Meeting and numerous district meetings.

East

The annual meeting of the New York State Society of Dentistry for Children was held on May 14, 1952. There was a fine array of table clinics and the one-day meeting closed with a dinner at which Maury Massler was the essayist.

Dr. Matthew Besdine was elected president of the New York Unit.

* * *

The New York Unit puts out a very nice bulletin. More states would do well to publish such a bulletin.

* * *

New Offices and Schools

The new dental building of the University of North Carolina is scheduled for occupancy late this summer.

* * *

"Pittsburgh, Pa." has been a popular musical number, and from Pittsburgh we have news of the new offices of Drs. Walter Weisz and Geraldine Fay, located at the Carlton House, 150 Grant Street. Congratulations!

* * *

Dr. David H. Kost has announced the opening of his new office at 16551 Plymouth Road, Corner Grandmont, Detroit, Michigan.

* * *

Mel Noonan tells me that Paul Sydow of Framingham, Mass., has moved into a new suite of offices and is very happy. Now if we can get the guy to stay at home for a while, instead of gallivanting around the country, things will really be fine in Framingham!!

* * *

Bob Sealby, of our Michigan Unit, has been on the sick list for several weeks, but expects to be back at work late this Summer.

Charlie Sweet of our N. California Unit, appeared on the program of the Michigan State Dental Association in April, and before the North Dakota Association at Minot on May 15 and 16. Charlie is very proud of his son Chuck's new home near Walnut Creek, a suburb of Oakland, which we understand is quite a showplace, with a swimming pool, 3 car garage and 4 acres of beautifully landscaped surroundings.

* * *

Wedding Bells

A. S. D. C.er Oscar K. Search and Betty Pettit, President of the Detroit Dental Assistant's Society, were united in marriage at St. Timothy's Episcopal Church on April 17. Congratulations!

* * *

Dr. W. Neal Newton and Nancy Eaton of Farmington, Missouri were married March 1, 1952. Best wishes to both of you. Dr. Newton is on the staff at the Washington University School of Dentistry at St. Louis, and also has a practice limited to Dentistry for Children.

* * *

Diaper Derby

From Missouri comes news of Jack and Jan Gilster's new baby boy, Norman Taylor. A future Pedodontist? ? ?

* * *

In Memoriam

The many friends of Dr. George Moore of Ann Arbor, Michigan are saddened to hear of his untimely death in Florida, April 6, 1952. Dr. Moore was not a member of the A. S. D. C. but he was well known in all branches of Dentistry. A member of the University of Michigan dental faculty since 1924, Dr. Moore was considered one of the world's foremost orthodontists.

An abstract by hugh m. kopel, detroit, michigan

Editor's note:

Occasionally we read articles in other periodicals which we think may be of interest to our readers. We have asked Dr. Hugh Kopel, a member of our Michigan Unit, to abstract some of these, and from time to time we will present his articles to you. You may address any correspondence about the articles to the Editor.

A.E.S.

"Some Fallacies Associated With Children's Dentistry" BRUCE LINDSAY, Dental Journal of Australia, January–February, 1952, v. 24, no. 1–2.

The author emunerates eight statements which he believes to be fallacious in the practice of pedodontics, and under each item he elaborates the whys and wherefores that make such statements fallacies.

I. *The dentist who does much work for children must love them and enjoy their company.*

a. Many dentists consider the pedodontist must be a combination of Father Christmas, a Radio Uncle, and a Christian Saint, oozing with kindness, with unlimited patience, and spending most of his days telling fairy stories. They consider themselves unable to carry out satisfactory dentistry for children, if they feel these qualities lacking in their own mental make-up.

b. The author feels that success with children does not require a great love of children, as emotional factors may be a hindrance to the operator's skill and judgement. The dentist must have respect for children, and a desire to help them, yet he must show he expects obedience and cooperation.

c. To work with children, control is necessary; control the child and you can control the mood and work becomes easier.

II. *That child control is (a) an inborn quality, (b) difficult.* Patience might be inherited, but it can also be cultivated and improved. Follow certain rules and know exactly what to do under given circumstances. A knowledge of fundamental human urges and their control is essential. (1) The urge for security. (2) The urge for response, affection. (3) The urge for new experience.

Child control in Dr. Lindsay's hands depends on:

a. Pulpal anaesthesia—need to control pain to control child.

b. 'Horse sense'—doing the right thing at the right time—comes about with experience.

c. Keeping Mother out of operating room. In order to keep child's attention directed to dentistry and not the effect of his behavior on mother.

d. The towel technique—for entirely un-cooperative children. It is something that is done in a certain way to obtain a certain result. Once the child has submitted to control through force, he must be shown that there is no pain associated with what he fears.

e. Confidence; confidence in yourself, so that the child senses this confidence and takes some for himself or senses that it would be useless to make a scene.

f. Souvenirs—Not given as a reward, because a good behavior must be demanded by our attitude.

III. *That local anaesthesia is contra-indicated because pain is necessary as indication of closeness of the pulp and because the heat generated by the bur will destroy the pulp.* The real reason for the claim is probably because of dentists' failure to get anesthesia or disorganization of appointments waiting for anesthesia to take effect. The heat generated is not a contra-indication as the dentist only condemns his own operative ability, according to the author.

IV. *That silver amalgam is the filling material of choice for all primary teeth.* There Dr. Lindsay enumerates the undesirable properties of copper amalgam, but does point out its greater advantages over silver amalgam; such as greater crushing resistance at the axiopulpal line angle, no need of linings under copper amalgam and no expansion after setting.

V. *That copper amalgam is the ideal material for primary teeth.* Dr. Lindsay suggests that copper amalgam is often placed in cavities where an ideal filling material would have a small chance of remaining. It is essential that copper amalgam be placed in correct cavities and with the use of a matrix if required.

VI. *That the anatomy of the primary molars makes the cutting of correct cavities a hazardous procedure.* Pulpal horns are larger in primary teeth but as long as one is careful and thinks a little while cutting a cavity, exposures will be kept to a minimum.

VII. *That children's dentistry does not pay.* With the use of local anaesthetics and proper discipline, the number of restorations that can be completed in children exceeds the number of preparations that can be completed in the same time for an adult.

VIII. *And the last fallacy—that dentists must amuse children.* Dr. Lindsay maintains it is not the duty of a dentist to amuse children. We do not have to cajole children into submitting to pain, because pain can be eliminated by the use of local anaesthetics and discipline.

In accordance with our Constitution, we publish herewith the personnel of the 1952 Nominating and Auditing Committees:

NOMINATING COMMITTEE

William W. Demeritt
Hugh Keenan
Donald Chatterton, *Chairman*

AUDITING COMMITTEE

Lawrence Burdge
Bernard Rabinowitch
Willard Hunnicutt, *Chairman*

from your president's pen

A Pause for Reflection

The Constitution of the American Society of Dentistry for Children states that "The purpose of the Society shall be the advancement and dissemination to the profession and the public of knowledge of all phases of Dentistry for Children."

After reading this sentence several times to make sure we thoroughly understand its contents, a question may come to us as to who within the Society should be carrying out these activities. We must then take time to reflect.

The dental profession as a whole is not greatly impressed by how big the A.S.D.C. becomes. In the past years we have gained the respect of the Profession by the results of our activities. The larger we become, the easier it is to "let the other fellow do it." It is easy to say that (1) The job is too big for one man, or (2) I don't have the time, or (3) My community isn't interested, or (4) Someone else should be doing it. We should not lose sight of the fact that if we as a Society are going to promote More and Better Dentistry for Children, we, as individuals have to look at ourselves, reflect a while, and ask "What have I done to help, what am I doing and what can I do?"

If we are to be honest with ourselves, we must see that broad personal success and service to others are most certainly dependent one on the other. We must have a clear vision of our ultimate goal, and an understanding of the most direct path to it. We must first be honest with ourselves. How else may we inspire and lead others?

Our purpose is set forth in the Constitution of the American Society of Dentistry for Children. Our goal is More and Better Dentistry for Children. There is an opportunity for all of us to better serve in our practice, in our community, in our state Unit, and in The American Society of Dentistry for Children.

Let's make Dentistry for Children our Youth Activity!

Earl L. Lampshire

DR. H. C. PUCKETT

Pioneer in Children's Dentistry

JOHN E. GURLEY, D.D.S.

San Francisco

Editor's note:

John E. Gurley, one of the founders of the American Society of Dentistry for Children, and its fourth President, is Editor of the Journal of Dental Education and the Journal of the American College of Dentists. Graduated from the University of California in 1908, he began to specialize in dentistry for children in 1915, thus establishing himself as one of the pioneers in pedodontics.

Dr. Puckett, the subject of this article, has always been John Gurley's guiding light, as it were, and we are happy to bring you this tribute to one whose efforts in behalf of good dentistry for children are not generally known or acclaimed.

A.E.S.

H. C. PUCKETT, D.D.S.

FOR a considerable time there has been running through this writer's mind a desire to place before the profession and the readers of the Journal of Dentistry for Children the name of that one who really inaugurated dental care for children. In college, many years ago we were taught to "do the best you can, these teeth are only temporary, therefore, cement fillings are about all you can use." For the treatment of abscesses, extraction predominated, although occasionally phenol might be forced through the root canal and fistula by means of a soft rubber tampon, thus burning out the fistulous tract and allow filling the root canal with an iodoform paste, and the cavity with amalgam.

When this writer first realized that children might constitute no small part of his practice, his mind inadvertently turned to his own childhood and to the first time his father brought him to and from the dentist's office. All of the pangs of that trip came upon him with a vengeance, and he determined then that no child should ever leave his office in a similar frame of mind! Attention was turned at once to a more serious study of that phase of dental practice and to dentists over the country who might have given more thought to the subject. We pause for a moment to pay our respects to Doctor Evangeline Jordan, of Los Angeles and to the late Doctor Newton Thomas of Minneapolis.

During the decade following 1908 a

determined effort was made by the writer, with the assistance of former instructors, to develop the practice of children's dentistry. During this time the subject of this tribute, Doctor Puckett, was discovered in Seattle, Washington.

The writer went up to Seattle and spent several days in close association with him, and was surprised to note that the same type of dentistry was being practiced for children as for adults with slight modifications in cavity preparation and root canal technique due to the difference in anatomy of the permanent and primary teeth.

Dr. Puckett practiced general dentistry in Warren, Illinois until October 1915, when he moved to Seattle. He took some special work in the Forsythe Infirmary in Boston and Philadelphia in 1913–14. He was, however, a little discouraged because so little was known about pedodontics at that time. He really was a pioneer in this work. He has paid his respects to Doctor Jordan mentioned above, and the two were, for a few years, the only dentists known to be giving special attention to children. He administered novocain for extraction and cavity preparation in that early day using block or conduction anesthesia. He taught the writer how to prepare cavities and how to use the amalgam of that day, which was difficult to use without pulp injury. He proved the fact that dentistry for children is a man's job as well as that of a woman, and today both men and women are stronger in their work.

Doctor Puckett did not travel much and therefore is not known to any great extent over the country although we of the Pacific Coast knew of the many papers presented by him at different meetings on the Coast. He used the clinic type of presentation extensively, it being more appropriate to his nature to *show* what could be done instead of merely *telling* the story.

He was a lover of the out-of-doors, and lived even in his earlier years on the outskirts of Seattle in what appeared to be a real country home. Later he developed his home on Whitby Island near Seattle. He was here improving his property when he fell March 10, 1945, and from which accident he did not recover. He kept a scrapbook, on the fly leaf of which appears this note:

> "When the final summons comes for me, and people come to stand by my side for the last time (if any do), I would like to have a Protestant, a Catholic, a Jew, a non-believer, a rich person, a poor person, an old person, a young child, and I would like to have lived so they can all say "He had many faults and he had too, some Virtues"."

Dr. Puckett and his family ahead of him were Quakers. He was Past Master of his lodge of F. & A. M. in Illinois; a 32nd. Degree Mason, Knight Templar, and a member of the Consistory. He was a man of excellent standing in the profession in Seattle, and all of us who knew him, especially those who received benefits from him pay respect to him for the work which he did. A casual survey of the Index of Dental Literature will reveal the fact that men thought and wrote upon the general care of children, many years before organized dentistry came to be a reality. It took until 1915 when Dr. Puckett began his work, to get the dental knowledge properly organized so that it could be disseminated. Dr. Puckett did this at no charge to his fellow practitioners for time spent in or out of his office.

Certainly little children have been benefitted by his ministrations; children's dentistry was started on a firm foundation; dentists have been helped by him; and all of us can know that a useful life has been lived.

Multiple Accidental Fractures of Posterior Primary Teeth (A Case Report)

THEODORE SUHER* D.M.D., M.S. AND HENRY C. FIXOTT, JR.† D.M.D.

University of Oregon Dental School, Portland, Oregon

Editor's note:

Ted Suher is a graduate of the Dental School of the University of Oregon at Portland, class of 1946. After receiving his M.S. in Pedodontics from the Univ. of Illinois, where he studied under Maury Massler, Ted returned to his Alma Mater, where he now heads the department of Dentistry for Children. Married, with 2 children, Ted pursues photography and gardening as hobbies, in addition to appearing as clinician before many dental groups.

Henry Fixott is also a graduate of Oregon and head of that school's department of Radiology. He has an outstanding reputation in his field, and has lectured before numerous dental groups.

We are printing this case report because we think it is unusual, and certainly is well written.

A.E.S.

INTRODUCTION

ALTHOUGH the incidence of fractures to the anterior teeth of children is high, the occurrence of accidental fractures of posterior primary teeth is very unusual. The experience of a fall or blow to the jaws would have to be of considerable force to crack or crush a posterior tooth. More often, fractures of the jaws or condyles result than fractures of the posterior teeth.

An extensive search of the literature and of dental roentgenographic and pedodontic texts reveals no reported cases of the accidental fracture of posterior primary teeth. However, three case reports of fractured posterior permanent teeth were found. Losee[1] presented a case history of a large fracture of a mandibular second permanent molar which underwent almost complete repair within a period of fourteen months. Despite the pulp exposure to the oral cavity in this case, orthodontic fixation of the tooth in conjunction with mandibular fixation of the fractured mandible was adequate to allow this remarkable recovery.

Ennis[2] published a roentgenogram of a mandibular permanent first molar with a fracture of its neck. This fracture resulted from a blow in a boxing match but there was no jaw fracture and no further information about the disposition of the case. Ivy[3] pictured an upper first bicuspid with a root fracture but also did not describe the case history or mention the possibility of pulp or root pathosis.

CASE REPORT

An active and well-developed five-year old boy came to the department of Dentistry for Children at the University of Oregon Dental School with the complaint of "some teeth which were sensitive to foods and temperature changes

* Associate Professor, Head of Department of Pedodontics.

† Clinical Associate, Head of Department of Radiology.

following an accident of the previous day."

History of Accident

On the day previous to his appearance at the dental school, this child had fallen some three of four feet from a ladder onto a concrete floor. He apparently had struck the floor almost directly on the point of his chin. The mother immediately applied cold wet applications to the chin area in an attempt to control the considerable hemorrhage from the skin of the chin. The child was taken to the family physician who, under local anesthesia, placed six sutures in the tissues of the chin to close the wound. He examined the child's jaws for fractures and found none. However, he did notice that some of the teeth appeared fractured and instructed the parents to take the child to a dentist as soon as possible. The physician also gave the child an injection of penicillin immediately and a prescription for the oral administration of aureomycin to begin the following day.

Oral Diagnosis and Treatment

The oral examination revealed a complete primary dentition, which was in good condition except for vertical fractures of the upper second primary molars and diagnonal fractures of the lower first primary molars. However, the crowns of these teeth were complete with the exception of the lower right first molar, whose mesial third of the crown was missing, causing an exposure of the pulp horns. Pulp exposures of the remaining teeth were suspected because of the nature of the fractures. The child complained of tenderness to percussion and sensitivity to the application of cold air on each of the fractured teeth. Roentgenograms were taken immediately and confirmed the clinical impression of the

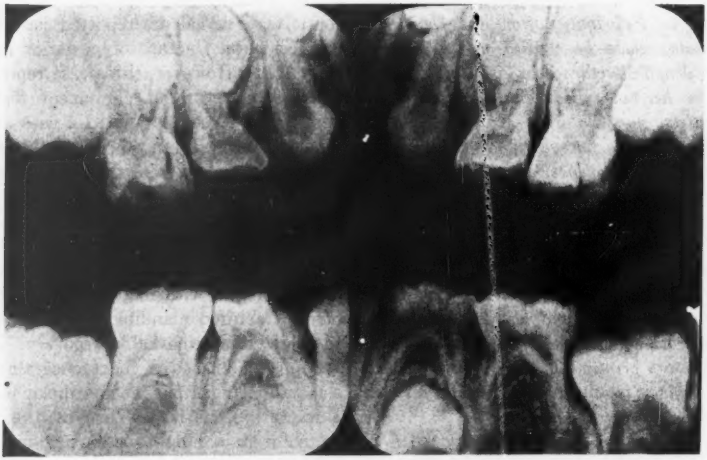

Fig. 1. Roentgenograms of four primary molars (upper second and lower first) showing fractures involving the pulp tissue.

pulpal exposures of each of these four molar teeth. (See Figure 1). Because of the length of time that had passed since the accident, and the nature of the fractures of each of the teeth, it was decided that these fractured molars should be extracted.

The clinical examination of the jaws, including normal movement of the mandible, was corroborated by a lateral jaw roentgenogram which revealed no fractures.

Arrangements were completed for the removal of these molars and the child suitably premedicated. The extraction of these four molars was performed under general anesthesia without complications. However, the surgical procedures revealed that there had undoubtedly been several additional minute fractures of the crowns of these teeth because each of them broke into several additional small pieces.

The post-operative care of the child was quite routine, and the boy has recovered without incident. He has returned to our clinic for the construction of the necessary space maintainers following this premature loss of his primary molars.

Discussion and Summary

This case report is of a five-year old boy who experienced a severe fall onto a concrete floor which resulted in four bilaterally symmetrical fractured primary molars and a bruised chin.

This experience is noteworthy because first, no fractures of the mandible or condyles resulted from this blow; second, no injury to the anterior teeth was sustained; and third, no similar case reports of fractured posterior primary teeth were found in the dental literature.

The diagnosis, treatment plan, and actual treatment offered no unusual aspects because, unfortunately, the fractures had caused pulp exposures on each of the four damaged teeth. Because of the complex nature of the fractures, these four teeth had to be extracted. The surgical procedures and the post-operative care were routine, and the recovery uneventful.

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2. Ennis, LeRoy M., Dental Roentgenology, Philadelphia, Lea and Febiger, 1949, p. 491, (fig. 1102).
3. Ivy, Robert H., Interpretation of Dental and Maxillary Roentgenograms, St. Louis, C. V. Mosby Co., 1919, p. 98, (fig. 116).

Unit News

If news of your Unit does not appear in the Journal, call it to the attention of your officers.

Correspondence should be sent to Mel Noonan, 141 S. Bates Avenue, Birmingham, Michigan.

Ohio

With the present season coming to a close the Ohio Unit selected the following officers to guide their organization during the coming '52–53 season.

Samuel Robbins—*Pres.*
C. Frank Tuma—*Vice Pres.*
T. H. O'Rielly—*Treas.*
Norman C. Colebrook—*Sec'y.*

The new officers have already met with an advisory group to plan the activities of the ensuing year.

Missouri

The Missouri Unit's recent meeting was held on May 12 at Washington University. The presentation was "The First Appointment", a panel discussion by Dr. Roy Wolff, Dr. Florence Rich, Dr. Earl Sheppard, and Dr. Carl Lattner. Reports were given by the chairmen of the committees for the annual meeting and things seem well in hand—we hope! The Missouri Unit delegates selected for the National Meeting were Dr. Carl Lattner and Dr. Ruth Martin with Jack Gilster and John Holland as alternates.

New officers were elected as follows:

Dr. Earl Bean—*President*
Dr. Carl Lattner—*Vice President*
Dr. John E. Gilster—*Secretary-Treasurer*
Dr. W. Neal Newton—*Corresponding Secretary*

Pennsylvania

The P.S.D.C. held its meeting in conjunction with the Penna State meeting and the election results were:

Morris Kelner—*President*
Walter Weisz—*Pres. Elect*
U. L. Monteleone—*Vice President*
Geraldine Fay—*Secretary-Treasurer*

Dr. Sidney Kohn presented a paper during the scientific session, and members comments were extremely complimentary of the meeting.

Michigan

The final meeting of the 51–52 season was a very successful session. A very interesting and worthwhile paper entitled "The Philosophy for Treating Handicapped Children" was presented by Thomas Coleman, Ph.D.

The annual election results gave leadership of the organization to the following officers:

Mel Noonan—*President*
Ross Scharfenberg—*Vice President*
William E. Brown—*Secretary-Treasurer*

Northern California

Correspondent Edward S. Mack sends the following information:

On Monday April 21 the Northern California Unit of the A.S.D.C. held a breakfast meeting at which President Chuck Sweet presented Hugo Kulstad with a sheepskin denoting him as an honorary president.

Ralph W. Phillips, Associate Professor and head of Dental Materials, Section at Indiana University who spoke on the materials used in Dentistry for Children, also stated that Dentistry for

Children as practiced in California is held in high esteem throughout the country.

Mr. Phillips also stated that amalgams made with small particled alloys are best and that 16% of failures are caused by moisture contamination during packing, and remarked that as far as plastics were concerned, the new brush technics have saved them from oblivion as filling material. He mentioned that they have probable future possibilities as cementing media.

It was a well attended breakfast and everyone felt it was a worthwhile meeting.

Tennessee

The Tennessee Society of Dentistry for Children met in conjunction with 85th annual meeting of the Tennessee State Dental Association, starting off with a luncheon attended by approximately sixty members of the State Society. The program committee had an excellent scientific session lined up with Dr. John C. Brauer, Dean of the Dental School of The University of North Carolina at Chapel Hill and Dr. William Demeritt, Professor of Pedodontics at the University of North Carolina on the program. Each of these men presented excellent papers on the subject "The Child in Your Practice". The Scientific Sessions were attended by more than 200 dentists.

The following state officers were nominated and unanimously elected:

Dr. Harry Bruce, Chattanooga, Tenn. —*Pres. Elect*

Dr. A. H. Trithart, Jackson, Tenn.— *Sec. Treas.*

Dr. Earl Crumpton, Knoxville, Tenn. —*Councilman*

Dr. Kenneth Ezill, Murfreesboro, Tenn. —*Councilman*

Dr. C. E. Jennings retired as president and automatically became a member of the Executive Council.

Dr. Gerald Bush of Knoxville was installed as president for year 1952–1953.

Maryland

This newly formed Unit adopted its Constitution at its meeting of May 22. Following a dinner for the Council at the Baltimore Country Country Club, the regular order of business was followed with the following members being elected to the various committees:

Program—William Kress

Membership—Francis Sauer, Morris Cramer, Gerson Freedman, Chairman.

Public and Professional Relations—R. Kent Tongue, Wm Schunich, Richard Leonard, Chairman

Historian—Alvin Greenburg

It is planned that two meetings will be held next year, the Fall meeting to be a forum on pedodontics, and the May meeting a promotional affair.

Southern California

On Monday June 23 at the Nikabob Restaurant in Los Angeles, Dr. Ted Roseburg addressed the Unit on "Current Findings in Dental Bacteriology" Dr. Rosebury, who is Professor and Head of the Department of Bacteriology at Washington University in St. Louis, Missouri, presented his very informative material in an unusually interesting and provocative manner, and the 100 members who attended were lavish in his praise.

Although we don't have the results of the election which took place that evening, we know 1952–53 will again find the Southern California Unit 'way up among the leaders in good programs and high attendance.

Texas

The Texas Unit met April 28 at Fort Worth, with President James H. Simmons presiding.

The Unit was fortunate in obtaining Don Chatterton of San Diego, California as guest speaker on the topic "Operative and Prosthetic Procedures in Pedodontics." Ken Easlick of Ann Arbor, an essayist for the Texas State meeting was guest of our Unit for this meeting.

At the combination business meeting and luncheon, Dr. E. T. Blair, Secretary and Treasurer, gave his report on the financial conditions and the Unit was shown to be in good financial standing, due to the efforts of our retiring President and Secretary and Treasurer.

The members present at the meeting commended Dr. Simmons and Dr. Blair for the fine work they had done in their tenure of office. Their hard work was evident in the fine meeting and program as well as the good financial condition that the society obtained during their period of office.

It was proposed that at the 1953 meeting in Houston, we would have a similar program.

Officers for the new year are Dr. Charles D. Yates of Dallas, Texas, President and Dr. John E. Parnell of Houston, Texas, Secretary and Treasurer.

The Texas Society of Dentistry for Children wants all practicing members of the Dental profession who are interested in Dentistry for Children to know that this society is for the promotion of dental health for children. We wish that anyone who includes children in his practice would join to help promote a better service for the children in his community.

The dues of $3 for the state unit and $5 for the national unit are well-spent to insure better Dentistry for Children. These dues also include the *Journal of Dentistry for Children*, which is issued quarterly.

For any information regarding the society please do not hesitate to write John E. Parnell, D.D.S. Secretary and Treasurer, 4606 San Jacinto, Houston, Texas.

List of Table Clinicians

The Table Clinics Committee for our Silver Anniversary Meeting, is proud to present the following clinicians, all of whom will present their clinics in the Alexander Room of the Melbourne Hotel, Sunday, September 7, 1952 from 9:30 A.M. until noon. These clinics have always been one of the highlights of our Annual Meeting—and we know you'll enjoy them.

ROBERT E. BEDELL
CARL LATTNER
W. NEAL NEWTON
QUENTIN R. RINGENBERG
JOHN GILSTER, *Chairman.*

1. Northwestern University Dental School Group Clinic
   JAMES J. KENNEDY, B.S., D.D.S., M.S.D., Chicago, Illinois, Assistant Professor of Pedodontics, Northwestern University Dental School
   C. R. CASTALDI, D.D.S., M.S.D., Chicago, Illinois, Northwestern University Dental School
   ANDREAS DAHL, D.D.S., Chicago, Illinois, Northwestern University Dental School
   NORMAN H. OLSEN, D.D.S., Chicago, Illinois, Northwestern University Dental School
   Subject: "The management of the exposed pulp in the young permanent tooth and the restoration of the broken anterior tooth with a simplified technique."
2. HAROLD A. MAXMEN, Ph.C., B.S., D.D.S., Detroit, Michigan; Charter Member, American Society of Endodontia; Past President, Michigan Society of Dentistry for Children; Fellow of American Academy International of Dentistry
   Subject: "Successful root canal therapy for infected pulps with periapical involvement in young permanent teeth having wide-open apices."
3. NAOMI A. DUNN, D.D.S. and IRVING W. EICHENBAUM, D.D.S., New Britain, Connecticut
   Subject: "Pulp Management in the Mixed Dentition."
4. NEVILLE A. BOOTH, D.M.D., Boston, Massachusetts, Clinical Supervisor, Oral Surgery, Forsyth Dental Infirmary
   Subject: "General Anesthetics in Dentistry for Children."
5. MANUEL M. ALBUM, D.D.S., Philadelphia, Pennsylvania; Chief of Dental Service, Philadelphia Society for Crippled Children and Adults; Chief of Dental Service on Cerebral Palsy, Childrens Hospital.
   Subject: "Cerebral Palsy in Dentistry."
6. CHESTER LLOYD, B.S., D.M.D., Memphis, Tennessee; Director, Postgraduate Pedodontics, University of Tennessee College of Dentistry, Lamar Crippled Children's Hospital, Memphis
   JAMES P. MCKNIGHT, B.S., D.D.S., Memphis, Tennessee; Fellow, Postgraduate Pedodontics, University of Tennessee College of Dentistry, Lamar Crippled Children's Hospital, Memphis
   Subject: "Dentistry for the Cerebral Palsy —Lamar Crippled Childrens Hospital."
7. HERBERT L. HAYWARD, D.D.S., Ph.D. and GEORGE P. PENDO, D.D.S., Kansas City, Mo., University of Kansas City, School of Dentistry, Department of Pedodontics and Public Health
   Subject: "Pedodontics at the University of Kansas City."
8. BHIM SEN SAVARA, B.D.S., L.D.S., M.S., Portland, Oregon; Assistant Professor of Pedodontics and Associate in Child Study Clinic, University Of Oregon Dental School; Clinical Instructor, University of Oregon Medical School
   Subject: "Techniques for the Evaluation of Physical Growth of Children."
9. WILLIAM P. HUMPHREY, B.S., D.D.S., Denver, Colorado
   Subject: "Use of Chrome Steel in Dentistry for Children."
10. HAROLD BERK, D.D.S., Boston, Massachusetts; Instructor of Oral Pediatrics, Tufts College Dental School; Diplomate: American Board of Pedodontics
    M. MICHAEL COHEN, D.M.D., Boston, Massachusetts; Instructor in Pediatrics,

Tufts College Medical School; Diplomate: American Board of Pedodontics
Subject: "The Use of Self-curing Resins in Dentistry for Children."

11. QUENTIN M. RINGENBERG, B.S., D.D.S., St. Louis, Missouri; Director of the Department of Preclinical Techniques; Instructor of Orthodontics, St. Louis University School of Dentistry
Subject: "Construction of an Immediate Acrylic Splint."
12. CAPT. ARTHUR F. MOLAY, D.D.S. and CAPT. DAVID L. WEBBER, D.D.S., Dayton, Ohio, U. S. Air Force, Wright-Patterson Air Force Base, Dayton, Ohio
Subject: "Prosthetics for Children."
13. BURDETT L. GAINSFORTH, D.D.S., M.S., Ogallala, Nebraska, Assistant Professor of Pedodontics, University of Nebraska Dental School
Subject: "Pedodontic Appliances."
14. B. ELIZABETH BEATTY, D.D.S., Philadelphia, Pennsylvania, Associate Professor of Pedodontics, Temple University School of Dentistry
Subject: "Space Maintainers."
15. LOUIS B. KELSTEN, D.D.S., Newark, New Jersey, Chief of Pedodontic Service, Beth Israel Hospital, Newark, New Jersey
Subject: "Juvenile Prosthesis."
16. SIDNEY M. KRONFELD, D.D.S., New York, New York, Assistant Professor of Pedodontics, New York University College of Dentistry
Subject: "Space Maintenance."
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Subject: "An appliance to be used in conjunction with infant feeding."
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Subject: "Undesirable Habits."
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Subject: "Orthodontics and Related Procedures in Children."

Recognizing Dental Pressure Habits

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THE smile, a keystone of a favorable personality, is often seriously marred by irregular teeth. There are many factors that cause irregular teeth, but one important group of causes can be classified as pressure habits. Pressure habits are seldom understood, but they can be clearly defined and their significance brought into better focus in our minds when we understand the following:

During the time the primary and permanent teeth are erupting the supporting bone is in a "pliable" stage. The teeth therefore will move and become irregular when there is an abnormal pressure on them. The teeth normally are held in position by two balanced pressures. From within, the tongue applies a slow constant outward pressure while from without, the cheeks and lips apply a constant inward pressure. Pressure habits are those habits which disturb this delicate balance.

The following examples will further clarify these habits:

Thumb and finger sucking: The constant pressure of the thumb moves the upper front teeth forward and the lower front teeth may be depressed, pushed backward or both. In numerous cases the whole development of the jaw is affected. The upper jaw, instead of attaining its normal width, is narrow with the roof of the mouth constricted. A small amount of thumb sucking may be normal, but determining the point at which damage is being done to facial contours requires the cooperation of the parent, dentist and pediatrician.

Lip biting: The common experience is to find the child biting the lower lip which results in the upper front teeth being pushed forward, often causing spaces between the teeth. Upon careful examination, indentations which are the result of this habit may be found in the lower lip. A further complication is found, when in the process of biting the lower lip, the teeth pinch one of the ducts of the small glands found in the lip, resulting in the gland swelling, usually with the formation of a small lump.

Nail biting: Usually this is confined to one or two teeth, which are pushed forward or backward or in some cases to the side, resulting in a space between the teeth. Unfortunately children often develop the habit of playing with this space with their tongue making it larger.

Pillow Habits: Very young children at times have digestive trouble resulting in the regurgitation of their food. Until the infant has overcome this difficulty he should sleep on his side or stomach, to prevent him from choking on any food thus regurgitated. When this trouble has passed and the coughing reflex is better developed (usually by six months of age), the child should sleep flat on his back with no pillow. If the child is allowed or encouraged to sleep on his side or stomach, the hand or fist usually is placed under the cheek, often resulting in the teeth on one side being pushed inward. The weight of the head pushing the fist against the teeth is often sufficient to collapse the dental arch. If the child alternates sides while sleeping, the back teeth on both sides may be pushed inward. If he sleeps

FIG. 1. Finger Sucking

FIG. 2. Finger Sucking

most of the time on one side, the disfigurement will be confined to that side of his face.

Cheek biting: This can involve any portion of the cheek and is a vicious habit. The movement of the teeth is not as great as in some other pressure habits but the lack of tooth movement is more than offset by the damage to the cheek. Often large ragged ridges of cheek tissue can be seen along the sides of the mouth. The teeth may cut these ridges and as in lip biting, the ducts of small glands may be closed with resultant swelling.

FIG. 3. Lip Biting

Mouth breathing: When normal breathing is obstructed to any great extent, the child is forced to breathe through his mouth. This causes the cheeks to exert more than their normal pressure, moving the back teeth inward. Often mouth breathing is not observed when the child is erect, but when he is lying down the increased blood supply to the head causes congestion and the child is forced to breathe with his mouth. Breathing through the nose warms, filters and moistens the air for the lungs. Mouth breathers do not prepare the air and there-

fore are more prone to upper respiratory infections. Over a long period of time the mouth breather develops a shortened upper lip, narrow nostrils, the roof of the mouth becomes constricted resulting in the upper front teeth moving forward and the back teeth moving inward toward the tongue.

Leaning habits: Parents, professional men, and educators have made remarkable progress in establishing high standards of posture for our children. Recently a new problem has entered the scene, namely leaning on the hands while watching television. The common position is to find one or both hands supporting the chin, with resulting inward and backward pressure on the teeth and jaws.

FIG. 4. Pillow Habit with Mouth Breathing

FIG. 5. Cheek Biting

FIG. 6. Leaning Habit

Obviously, this is not the only leaning habit. Many children like to lie on their stomachs on the bed or floor and read while one or both hands rest on the chin.

FIG. 7. Tongue Habit

Other children eat or study with one hand applying pressure to the side of the face.

Tongue habits: There are a few cases where children actually bite their tongues but the common tongue habit is associated with swallowing. Most children swallow with the tongue against the roof of the mouth. Others thrust the tongue between the front teeth when they swallow and this repeated thrusting is sufficient to move the upper front teeth outward and cause the bite to be opened. In observing children for this pressure habit, it is necessary to open the lips, making it possible to see the tongue trapped between the front teeth during the swallowing act.

The accompanying photographs and descriptions of pressure habits are offered in the hope that early recognition of the problem may be made. Obviously the earlier the habit is recognized, the less time it will have to become firmly established and the easier it will be to correct. The treatment has been omitted because every problem is individual and there is no one universal cure. In fact some are quite complicated, requiring the best services of the parent, dentist, pediatrician, and sometimes the psychiatrist. If you suspect a pressure habit in your child patient, enlist the aid of the parent to overcome it.

Teething—A Review

RALPH NEADERLAND, D.D.S., M.S.

Editor's note:

Ralph Neaderland is now a Captain in the U. S. A. F., stationed at Holloman A. F. Base, New Mexico. After receiving his D.D.S. degree from N. Y. U., he entered U. of Illinois, where he worked with Maury Massler to earn his M.S. in Pedodontics. After his separation from the Service, scheduled for early 1953, Ralph expects to enter the private practice of pedodontics, get married and then learn at first hand some of the answers to the questions he has posed in the accompanying article.

A.E.S.

INTRODUCTION

The Problem of Teething

THE eruption of the primary teeth into the oral cavity is an important event in the life of both infant and parents. The infant is then said to be "teething," and the process is believed to be accompanied by a variety of physical disturbances, ranging from simple discomfort to severe malaise and accompanied by drooling and fever. Convulsions, other extraordinary nervous disorders, and even death have been attributed to teething.

Although many centuries have passed since the problem first came under scrutiny, the relation between the eruption of the primary teeth and teething symptoms are still obscure. Nowhere in the recorded literature is there indisputable proof of such relationships and in fact, many authors vigorously deny them (without however offering any better proof than the adherents of the teething school). If such clinical symptoms as fever, drooling, pain, etc., are caused by the eruption of the primary teeth into the oral cavity, it becomes our responsibility to equip ourselves to alleviate the discomfort. If, however, these are not symptoms, but unrelated entities, we must employ more adequate diagnostic methods to determine their cause. When we attribute concurrent symptoms to teething, the basic disease process which is their true cause may find serious culmination without proper treatment. The problem of teething thus resolves itself into one of diagnosis.

It is interesting to note that the eruption of teeth into the oral cavity is said to be accompanied by discomfort only in the primary dentition, and only at a much later date in the third molar. However, the mechanism of discomfort in impacted third molars is clear, while that of the primary teeth is not. The problem of teething therefore, usually exists only in the child from the sixth month to the end of the second year. The eruption of the permanent teeth is not accompanied by symptoms.

Opinions Concerning the Effects of Teething

A review of the literature reveals many uncontrolled, subjective observations and few well documented reports. There exist three different schools of thought on the relationship between clinical symptoms and the eruption of the primary teeth. The first, which considers pathologic dentition or 'Dentitio Difficilis' a reality, sees a cause and effect relationship between the eruption of the teeth and the

clinical symptoms which have been noted. The second group, which considers teething as a physiologic process, regards these symptoms as only coincidental to teething and not correlated with it. A third group considers mild discomfort a common consequence of what is primarily a normal, physiologic process.

Pathologic Processes Attributed to Teething

Clinical Manifestations of Dentitio Difficilis

The Pathologic processes attributed directly to the eruption of the primary teeth into the oral cavity include fever, loss of appetite, sleeplessness, increased salivation and drooling, finger sucking, jaw grinding, coughing, gastro-intestinal upset, and convulsions. Hippocrates (460–361 B.C.), Galen (131–203 A.D.), White (1873), Kirk (1902), Moody (1919), Briggs (1924), Brewer and Avers (1939), Schwartzman (1939), and Witkins (1939) have stated and restated these symptoms. However, this thesis is not well proven in the literature by actual case presentations. In fact, no large scale study of this problem was discovered. Even more difficult to authenticate were such conditions as stomatitis, glandular hypoplasia, rash, photophobia, discoloration of the gingiva, accelerated breathing, mouth breathing, head retraction, blinking eyes, neuralgia, toxemia, rhinitis, tonsillitis, otitis media, and paralysis, as well as the discharge of matter from the penis, which modern writers such as Bloom (1939) and Schwartzman (1942) have implicated.

Cases of Dentition Difficilis

In 1919, Moody reported two cases of pathologic dentition. The disturbance occurred when the teeth began to push through the gingiva and there existed a "bulging gum" over them. In the first case there was a cough which was serious enough to warrant a physical examination which was negative. When the gum was "scraped" with a scalpel, the cough disappeared. The second child presented with convulsions and fever, and the subsequent physical examination had negative findings. Four hours after lancing the gums, the child returned to normal.

Brewer and Akers (1939) reported on 457 cases of disturbed dentition seen in private practice. Of these, 50 were advocated for surgery. Fifteen had temperatures of 100 to 102 degrees and mild symptoms of fretfulness, appetite loss and local ischemic bulging over the tooth. Twenty-eight cases had temperatures up to 104 degrees with great fretfulness, crying, finger gnawing and acute diarrhea. The gums were red and inflamed over the unerupted or partially erupted teeth. Seven patients had temperatures of 104 and over, with mucus discharge from the nose and throat, severe head cold, frequent convulsions, poor appetite, weight loss and swollen, engorged gingiva over the teeth. For these cases, incision of the gingiva was performed. The temperature returned to normal in 24 hours, and the other symptoms disappeared. In only six cases was more than one incision necessary.

Incidence of Pathologic Dentition

Schwartzman (1942) reported on a five-year study in private practice and seven years of hospital observation. He found that of 378 cases seen in private practice, 98, or 13% of the total, had disturbances during the process of dentition, 58% of whom were female. Fifty-five, or less than 0.4% of the 14,950 hospital admissions had disturbed dentition, of which small group 49% were female. Therefore pathological dentition might be expected

in 13% or less of children. No significant difference was observed between boys and girls.

Season. There is conflict even within this school as to the seasonal effects upon 'dentitio difficilis.' Hippocrates claimed that most of the difficulties occurred during the hot summer months. In 1939 Schwartzman said that teething difficulties occur in the seasons in the following order of decreasing incidence; Spring, Winter, Fall and Summer. In 1942 he reported that the order was: Winter, Spring, Summer and Fall.

Age. At the same time, Schwartzman reported that 56% of the difficulties occur before the twelfth month of life, 96% before the eighteenth month and only 3.6% thereafter. This concurred with the report of Briggs (1924) that the primary first molar caused the most profound constitutional disturbances, with the lower centrals next in order in this respect.

Mechanisms by which Teething Causes Clinical Symptoms

Various theories have been propounded as to the mechanisms by which the difficult eruption of the primary teeth may cause clinical symptoms. White (1873), Brebner (1939), Bercher (1943), and Hutchinson and Gibbons (quoted by Brebner, 1947) hypothesized that the medium was nervous irritation. They considered that irritation of the trigeminal nerve occurred during eruption and caused local and reflex disorders. Kruska (1946) mentioned infection of the dental sac as a possible mechanism. Others have claimed that there is a lowered local resistance to disease. Witkin (1939) postulated inequality between the rate of "gum absorption" and tooth advance (eruption). Schwartzman (1939) advanced the hypothesis that toxins are released during the process of eruption, which toxins enter the systemic circulation and cause a variety of symptoms. Not to be overlooked is the early theory of Galen of the eruptive process being an ejection of a foreign body, a theory more recently revived by Gottlieb.

Treatment of Teething as Advocated by First Group

Lancing. Ambrose Pare (1510–1599) was the first to suggest lancing. Moody (1919) reported that lancing the gingiva over the bulging "difficult" tooth results in immediate relief. Brewer and Akers (1939) suggested two incisions, at right angles to each other, extending down to the occlusal surface of the tooth, (performed without anesthetics or antiseptics!) as a relief measure. It has also been suggested that the lancing be done at muco-buccal fold to relieve pressure in the "eruption cradle."

There has been a trend in recent pediatric practice to deplore the lancing of the gingiva. Among those who have taken a stand against this practice because of the possibility of secondary infection and scar formation are Witkin (1939), Schwartzman (1942) and Poncher, Schour and Massler (1945).

Sedation. Witkin (1939) advocated the use of a calomel (mercurous chloride) formula, aspirin, or bromide to allevaite any symptoms of teething. Schwartzman (1942) suggested the use of sedatives and analgesics.

Mercury Compounds. In 1949, Biving reviewed the recent work of Warkany and Hubbard in which they reported mercury in the urine of children suffering with acrodynia. In the 44 cases of acrodynia reviewed by Biving, 14 had used teething powders containing mercury. The most common symptoms of acrodynia were changes in disposition with in-

creased listlessness, restlessness and irritability (Bilderback, 1945). There were recurrent generalized rashes and pink discoloration of the hands, feet and nose. Desquamation in these areas, fever, unusual postural conditions and pain of the limbs resulting in poor sleep were common. Sixty per cent of the cases show marked photophobia. It is provocative to consider mercury-containing teething powders not as a therapeutic measure, but as an *etiological* factor in the teething syndrome.

Teething Objects. The use of a hard crust of bread for the infant to munch upon (Kruska, 1946) and the general advocation of teething objects have been decried as the cause of irritation and inflammation. Fleischmann (as early as 1877) said that these "aids" may accentuate the irritation and lead to catarrhal gingivitis.

A Summary of Dentitio Difficilis

Kirk (1902) stated the case for pathologic dentition as follows: "It is easy to comprehend the reason for the prevalence of several opinions on this question and the impossibility of definitely stating whether the disease from which the infant may be a sufferer at the time of dentition is caused by difficult dentition or vice versa. Experience has shown however, that in a great majority of cases, pathological dentition is the predisposing cause, while in other cases it is the direct cause of the serious general phenomena with which the dentist, who has had an opportunity to treat infants, or the pediatrician is so well acquainted."

Teething as a Physiologic Process

Those who consider teething as a normal physiologic process describe the disturbances which seem to accompany this event as concomitant but unrelated to the process of eruption. Bunon (1745) was among the very first to offer this concept, the extreme opposite of the credendum of 'dentitio difficilis' which had been accepted since Roman times.

Explanations for the Symptoms of Teething. This school holds that there is not even inflammation of the gingiva during the process of eruption; as early as 1877 Fleischmann wrote that there is no pain associated with the eruption of teeth. Wickman (1797), Fleischmann (1877), Forchheimer (1892), Guthrie (1912), Herrman (1913), Diaz (1933), and Summers (1940) have stated the precepts of physiologic dentition. They have explained that the eruption of the primary teeth into the oral cavity occurs at the time of the greatest susceptibility of the infant to infection and disease. These authors accounted for the fever, pain, irritability, diarrhea and convulsions as caused by unrecognized childhood diseases present at the same time as the teeth erupt into the oral cavity.

Gastro-Intestinal Disorders. The gastrointestinal disorders which have been so frequently included in the list of teething symptoms have been carefully scrutinized. Changes in the child's diet occurring at the same time, overfeeding by anxious mothers (Witkin, 1939) and the unsanitary preparation and administration of foods have been described as the real agents. Guthrie (1912) wrote that he rarely saw a case of difficult dentition which had not been preceded by gastrointestinal disturbance. This is especially true in past centuries and even today in areas where refrigeration is not adequate.

Fingersucking. In 1877 Fleischmann wrote that the infant puts his finger in his mouth because of the normal sucking reflex, not because of pain during teething. Kruska (1946) explained the same phenomenon by describing the oral cavity

as an erotic zone. Kunst (1948) found a gradual decline in finger and thumb-sucking during the period when teething was beginning or in full swing.

Drooling. The drooling associated with teething in the literature is, according to Fleischmann (1877), Heiman (1922) and many others, caused by the excessive salivation that accompanies the newly matured salivary glands and is therefore entirely physiologic and unrelated to the eruption of the teeth. All infants drool because the amount of saliva secreted is too plentiful to be contained inside the mouth. Children with late dentition, it is pointed out, still show this hypersalivation and drooling although no teeth are erupting.

Convulsions. Kruska (1946) pointed out that the convulsions which have been attributed to teething are in reality a normal manifestation of the rapid growth of the body during this period, coupled with the imperfect central nervous system control. Towards the end of infancy and the end of the teething period there is better neuromuscular control and a definite decrease in the incidence of convulsions is noted.

Fever. Helmerich (1927) in her study of measles patients, reported that tooth eruption does not cause fever. In a group of nineteen children, eleven to twenty-seven months of age, suffering from measles over a period of time, the *rate of eruption was markedly accelerated.* In another group of sixty-five feverish children, thirty-eight again showed marked increase in the rate of eruption. However, statistical analysis of her data showed that there was no evidence beyond that of chance that eruption was actually accelerated by fever.

Abels (1930), using only measle cases and including the teeth which erupted soon after the fever, though not during it, found that an extraordinarily large number of teeth erupted earlier than usual in the first four weeks after fever. Thus we see a shift from the question of whether teething causes fever, to the view that fever causes teething, i.e., accelerates the rate of eruption of teeth.

The view is put forward by this group that a careful diagnosis of the child when it is teething usually will reveal the basic illness which is the true cause of the symptoms.

The Concept of Teething as a Primarily Physiologic Process Attended by Some Discomfort

There are many writers who consider the eruption of the primary teeth into the oral cavity an entirely physiologic process, but one which may cause some discomfort to the infant. Bloom (1939), Kruska and Gibbens (1946), and Lukas (quoted by Pollitzer, 1946) describe mild symptoms as fretfulness, restlessness and loss of appetite to be associated with eruption. Poncher, Schour, and Massler (1945) state that this association takes place in many instances.

In 1949, Hurlock described teething as a process which is sometimes accompanied by more serious symptoms, but whether these are present or not, the baby will not feel up to par. The baby, she said, "will be listless or fretful. He does not sleep as well as usual, appetite is poor, and he shows less interest in his surroundings than usual." The important thing is the effect on the baby's disposition. Once the gum has been pierced, and the tooth can be seen, he begins to be normal in spirits. This broadened a previous statement, (1942) in which she wrote, "The emotionality of the baby between the ages of six months and thirty months may be traced by the cutting of the teeth. Each new tooth is accompanied

by some physical upset, even though it may be of a minor sort, and this predisposes the baby to general irritability."

Discussion

From a review of the literature, three concepts of "teething" are gleaned: a pathological process, a physiologic process, and a primarily physiologic process. The general subjectivity of the reports, and the divergence of opinion, leads to the conclusion that a fresh analysis of the problem is needed. For this purpose, an objective clinical study should be undertaken, which would encompass a large enough sample to support or refute the existing hypotheses. Babies examined at well-baby clinics, and in private practices would offer valuable material for such a study which is now in progress.

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Extra-Oral Technic for Anesthetizing the Teeth and Palate of Children Born with Oral Clefts

Dr. Josse-Emile de Wever

Editor's note:

Josse De Wever was born in Antwerp, Belgium, in 1910, but his experiences are those of one who has lived much longer than his years, for he was a member of the "underground" during the occupation of Belgium from 1940 until the end of the War, being captured, imprisoned in solitary confinement in handcuffs for 4 months and finally sent to concentration camp in Buchenwald in 1944, from which he was liberated by General Patton's 3rd Army in 1945.

His war medals are too numerous to list, and include the Croix de Guerre avec Palme; his professional society memberships, special studies, lectures and publications are many, and in addition he is a mighty fine companion, as ye Ed will attest, having met him in Europe last Summer.

Dr. De Wever is at present a graduate student in the School of Public Health, University of Michigan.

We offer this paper as a different approach to an anesthesia problem which may confront any one of us.

A.E.S.

EXTRA-ORAL block anesthesia is an effective and safe technic for producing profound anesthesia of the nerve supply to the maxilla.

There is uncertainty about some of the aspects of the nerve supply of the upper jaw. The variability in this nerve supply, as pointed out by Lindsay (5) and Sicher (9), would explain the frequent failures of the routine technics used for anesthetizing the maxillary teeth and the palate, particularly of children born with an oral cleft. The final distribution of the fibers of the trigeminal's second branch varying considerably, block anesthesia is advantageous when secured right at the spot where the maxillary nerve leaves the skull through the foramen rotundum and enters the pterygo-palatine fossa.

1. Anatomical Considerations

The pterygo-palatine fossa, also called the sphenomaxillary, contains the ramifications of the maxillary division of the trigeminal nerve. The main ramifications are

1. the infra-orbital nerve which, before emerging through the infraorbital foramen, gives off the middle superior dental and the anterior superior dental branches,
2. the posterior superior alveolar nerves,
3. the spheno-palatine nerves with Meckel's ganglion and its branches among which are included
   (a) the naso-palatine which emerges further along through the anterior palatine foramen and
   (b) the anterior palatine nerve which appears at the posterior palatine foramen.

Most of these branches anastomose with each other and form different loops. Furthermore, their field of innervation as well as their point of emergence is quite variable (5, 9). In regard to children born with oral clefts, references about possible alterations in the nerve supply to the maxilla were not found.

The pterygo-palatine fossa is a tri-

angular cavity with its base upward. It is bounded above by the sphenoid bone and the orbital process of the palatine bone. Medially, it is separated from the nasal cavity by the perpendicular portion of the palate. Posteriorly, it is limited by the pterygoid process of the sphenoid bone and anteriorly, by the tuberosity of the maxillary bone. The fossa communicates anteriorly with the apex of the orbit by way of the inferior orbital fissure, and laterally with the infra-temporal fossa by way of the pterygo-maxillary fissure (also called spheno-maxillary gap). In spite of the depth of its location, the pterygo-palatine fossa and hence the second division of the trigeminal nerve are accessible to an injection of anesthetics.

FIG. 1. The routes to the pterygo-palatine fossa; (1) needle in pterygo-palatine canal, (2) probe showing orbital route, (3) end of probe after passing through foramen rotundum, (4) probe showing position of needle inserted above zygomatic arch, (5) inferior molar ridge.

2. ADVANTAGES AND DISADVANTAGES OF DIFFERENT ROUTES OF INJECTION

The pterygo-palatine fossa can be reached by four different routes:

1. From the oral cavity through the posterior palatine foramen and pterygo-palatine canal. (Fig. 1)

2. From the inferior orbital fissure by the orbital route. (Fig. 2)

3. From below the inferior malar ridge and along the posterior surface of the

maxilla through the spheno-maxillary hiatus. (Fig. 1)

4. From above the zygomatic arch through the infra-temporal fossa and the spheno-maxillary hiatus. (Figs. 1, 3 and 4)

a. Through the Pterygo-palatine Canal

This technic (Fig. 1) is clearly described by Sicher (10) in his textbook of "Oral Anatomy." In addition to the possibility of anesthetizing the optic nerve with the minimum consequence of temporary blindness, there is always a minimum of injury to the structures contained in the canal, i.e., the palatine nerve and the descending palatine vessels.

In children born with oral clefts, locating the palatine foramen is not always easy and the ability of such children to open their mouths sometimes is limited. The needle of the syringe being deeply engaged in a canal, may involve serious complications whenever the patient moves, particularly if he closes his mouth.

b. By the Orbital Route (Matas' Method)

A comprehensive description (Fig. 2) of Matas' method is given in Smith's (11) "Block Anesthesia." The orbital route, approximately 4 cm long, is a relatively safe extra-oral approach, but considerable difficulty may arise due to a narrow or tortuous inferior orbital fissure while the orbital field per se makes it a frightening technic for the patient to accept.

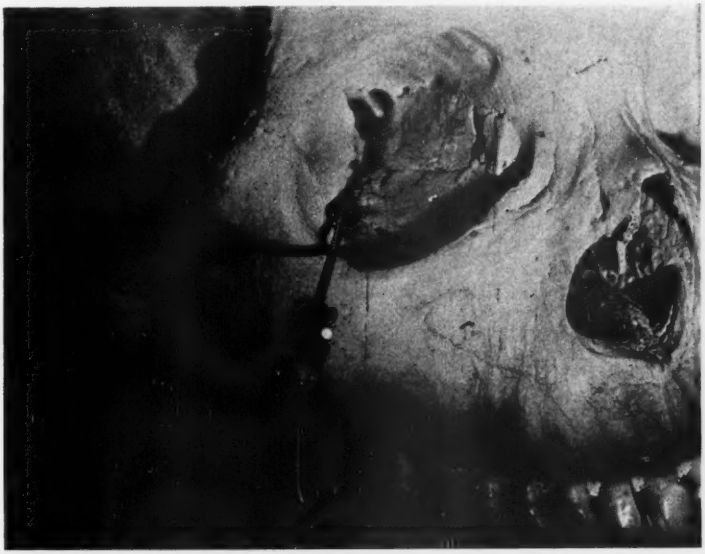

FIG. 2. Needle inserted by orbital route and probe showing the supra-zygomatic approach.

c. From Below the Inferior Malar Ridge

This technic for maxillary block anesthesia may be used either extra-orally or

intra-buccally. By the intra-buccal method the needle is inserted in the muco-buccal fold, posteriorly to the malar process. This technic is the result of Collon's (1) study and it also is described in Lindsay's (5) report.

chief structures which can be damaged are:

(1) the external pterygoid muscle, producing a trismus.

(2) the pterygoid plexus of veins, producing a hematoma.

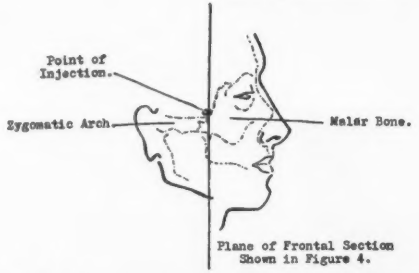

FIG. 3. Profile sketch to show the supra-zygomatic approach.

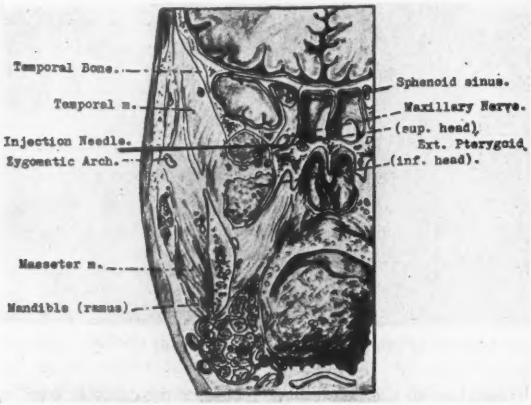

FIG. 4. Transverse section of skull at the injection route from above the zygomatic arch.

The extra-oral approach is described in Sicher's (10) "Oral Anatomy." Sicher concludes: "Since this injection is reserved for major surgery, the risk of injuring one of these smaller arteries has to be taken." The disadvantages of this injection no matter what technic is being used, must always be kept in mind. The

(3) the internal maxillary artery and smaller arteries, such as the posterior superior alveolar artery at the maxillary tuberosity and the descending palatine artery in the pterygo-palatine fossa, producing a very rapid extravasation of blood in the loose connective tissue surrounding the blood vessel. The amount

and rapidity of the swelling will be dependent upon the location of the hematoma. The skin and fascia which cover the maxillary bone in this region might protrude considerably and the patient might return with a "black eye."

d. From Above the Zygomatic Arch Through the Infra-temporal Fossa

This extra-oral technic (Fig. 3) is the easiest and the safest of all of the methods proposed for block anesthesia of the second division of the trigeminal nerve. It utilizes the shortest route from the skin to the maxillary nerve where it emerges from the cranium. Furthermore, lying as it does in the upper part of the infra-temporal fossa, a needle has to penetrate only the skin, the temporal fascia, the temporalis muscle and the superior head of external pterygoid muscle (12). (Fig. 4) In this area there is practically no chance of injuring the internal maxillary artery and the pterygoid plexus of veins situated in the lower part of the fossa.

3. Rochette's Technic of Injection

Rochette (7) suggests that the operator locate the angle of the postero-superior ridge of the malar bone and the zygomatic arch with the tip of his index finger and that this landmark be painted with tincture of iodine. The skin, after being prepared properly, is grasped between the index finger and thumb to provide a site for a preliminary injection or wheal as an introduction to this block technic. "Wheals should be raised in the uppermost layers of the dermis so that a pigskin-like elevation is made. Deeper infiltration for this purpose is needless and usually unsatisfactory" (3). After the wheal has been raised, the needle is introduced horizontally and perpendicular to the skin to a depth of 40 to 45 mm. In this way, the needle proceeds into the upper part of the pterygo-palatine fossa in the neighborhood of the foramen rotundum. Two cc. solution of 2 per cent xylocaine (4) will provide an effective and safe block anesthesia of the maxillary nerve.

Proper premedication is a prerequisite to consistently satisfactory regional anesthesia and many times makes the difference between good and poor results. When operating on a child it is good practice to premedicate with a member of the barbiturate group. The operator must have a properly prepared and cooperative patient and must be aware of the necessity for gentleness in a surgical operation.

Finally, Cullen (3) may be quoted: "The bases of good block analgesia technics are 1. good equipment kept in good condition, 2. adeptness and finesse in handling the equipment and 3. consciousness of aseptic principles."

4. Conclusions

1. Considering that the nerve supply of the maxillary teeth and palate is still not constant, there is more certainty of effectiveness when one employs block anesthesia.

2. A review of the dental literature on the different methods of block anesthesia for the maxilla reveals four basic technics of approach.

3. Considering the topographic anatomy involved in each method, it may be concluded that the easiest and safest technic is from above the zygomatic arch through the upper infra-temporal fossa.

4. More study is necessary to determine whether a low inferior ridge of the temporal bone usually is a real obstacle to the use of this supra-zygomatic method.

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An Evaluation of Vitamins

(1) VITAMIN D

(a) Will fortification with vitamin D (or sunshine) reduce the caries attack rate?
On the basis that vitamin D must be used in the developmental period of the teeth to serve a useful purpose, studies which had been made of the teeth of rachitic children were investigated.
Shelling and Anderson showed that the incidence of dental caries in a group of rachitic children was not greater than a group receiving vitamin D. Their findings show neither a relationship between rickets and dental caries nor do they indicate that vitamin D is a protective against caries in primary teeth (1). Day, after his observation of the dental condition of adolescents who were reared in a famine area of India stated that it seemed reasonable to conclude that a diet nutritionally sound according to our present concept has little if any bearing on caries immunity. Further, he maintained that the vitamin and other deficiency hypotheses are untenable, and that the physical nature of the foods and the continuance of the traditional diet are factors of infinitely more importance in the prevention and control of dental caries (2).

(b) Will fortification of the diet with vitamin D reduce malocclusion?
Day found that the prevalence of malocclusion in the children of a famine area was approximately half that noted in the much more adequately nourished children of India. However, Shelling and Anderson in their study found that malocclusion, especially of the Class I Angle type, was more common in the rachitic than in the nonrachitic children. It is felt that perhaps transitional changes in occlusion were observed and that Day's findings can be accepted (1, 2).

(2) VITAMIN C

(a) Will fortification with vitamin C reduce the caries attack rate?
Fortification of the diet with vitamin C in an attempt to reduce the caries attack rate is of little value. Bunting reported an observation of 169 children over a period of one to 4½ years who showed an appreciable amount of caries activity in only five to six per cent of the children. There were in the group, 75% to 80% with no active caries. Oranges were available only at Christmas time, cookies were served once a week and 40 to 45 per cent of the caloric intake was in the form of starch and cereals. No candy was allowed at any time (3).

(b) Will fortification with vitamin C reduce gingival diseases?
Crowley and Kerr concluded from their work in the comparison of the ascorbic acid level of the blood of gingivitis tissues and of normal gingival tissues that no scientific evidence substantiates the claims of a relationship between gingivitis and subnormal vitamin C nutrition (4). Restarski considered that gingivitis and its paradontal manifestation, in most instances, is a local lesion and that its connection with systemic processes requires considerable additional studies. Unless there is clinical evidence of scurvy, with laboratory confirmation of depletion of the white cell platelet ascorbic acid content, the assumption that gingivitis is on a scorbutic basis is unwarranted (5). Grandison, Stott and Cruikshank, in an experimental fortification of the diet of twenty children over a period of two years, found no observable improvement in their dental condition (6).

(3) VITAMIN K

(a) Will fortification of the diet with vitamin K reduce the caries attack rate? Since vitamin K is manufactured by the putrefactive flora in the intestine of man, it is possible but highly unlikely that fortification of the diet with this compound will affect the caries attack rate. Fancher, Calandra and Fosdick found that when vitamin K was added to saliva samples in vitro, a drastic decrease in the rate of acid formation occurred. However, they concluded that this finding gave no indication that the action has any relationship to its vitamin K activity (7, 9).

(b) Will fortification of the diet vitamin K reduce gingival diseases? Since vitamin K is produced by the intestinal flora it is doubtful that a deficiency of this vitamin is likely to occur, hence fortification of the diet appears to be valueless (7).

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Johnston, D. H., Blade Bldg.

Fairfield
Burkett, Gerald Wayne, 305 Summit St.
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Galesburg
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Germantown
Eversgerd, V. H.,
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Highland Park
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Rantoul
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Britt
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Carroll
Deur, H. E., Koepke Bldg.
Cherokee
Griffith, Donald Ebert, c/o Dr. P. S. McCollister
Clinton
Jacobi, A. F., 212-14 Tucker Bldg.
Schneberger, C. J., 305-6 Howes Bldg.
Council Bluffs
Marsh, Eugene L., 208 City Nat'l. Bank Bldg.
Davenport
Barton, Paul M., 413 Davenport Bank Bldg.

Berney, James E., 425 Davenport Bank Bldg.
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Green, Lucius Felton, James Bldg.
Shreveport
Fowler, Sanders, Jr., 1422-23 Slattery Bldg.
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Gilley, Frank Palmer, 31 Central St.
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Biddeford
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Lubec
Kierstead, Edward S., 41 Pleasant St.
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Attleboro
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Beverly
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Boston
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Beebe, Henry, 60 Charlesgate W.
Berk, Harold, 471 Commonwealth Ave.
Biasi, John V., 29 Commonwealth Ave.
Blumenthal, Fred R., 1 Raleigh St.
Boyers, Charles L., 300 Longwood Ave.
Chadbourne, Bailey, 358 Commonwealth Ave.
Cohen, Melvin I., 188 Longwood Ave.
Davenport, Raeburn, 164 Newbury St.
Diamond, Robert J., 100 Boylston St.
Dunning, James, 25 Shattuck St.
Epstein, Henry D., 536 Commonwealth Ave.
Gavel, J. Murray, 198 Marlborough St.
Gilpatrick, Paul H., 45 Bay State Rd.
Karplus, Liselotte, 353 Commonwealth Ave.
Losch, Paul K., 300 Longwood Ave.
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Talkov, Leo, 53 Bay State Rd.
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Wright, Mary Crutchfield, 181 Winsor St.

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Berson, Frank R., 194 Shurtleff St.

Dedham
Kraus, Frederick W., 30 Myrtle St.

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Florence
Hall, Glade P., 74 Maple St.

Framingham
Mock, Joseph J., 109 Concord St.
Sydow, Paul F., 29 Lincoln St.

Greenfield
Pierce, Abijah D., 58 Federal St.

Lawrence
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Lowell
Deane, Laura, 9 Central St.
French, Vernon R., 540 Merrimac St.

Lynn
Willens, S. H., 19 Nahant St.

Malden
Glazin, Allan, 1 Salem St.
Zafran, William J., 223 Salem St.

Medford
Bommer, Arno Purington, 37 Woburn St.

Milford
Ellsworth, Roy E., 224 Main St.

Needham
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New Bedford
Rubin, Morris, 90 Cottage St.
Sicard, Paul C., 84 Spring St.
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Quincy
Whin, Woodrow Wilson, 234 Sea St.

Salem
Marlin, Albert G., 60 Washington St.
Story, Sherman, 70 Washington St.

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Cronin, Harold J., 739 Liberty St.
Gold, Arthur, 26 Maple St.
Hunter, Melvin L., 167 State St.
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Moorhead
Rostad, Philip E.,
Montevideo
Eidem, C. O., Security Bank Bldg.
New Brighton
Scanlon, John F.,
Newport
Geist, George A., Jr., Bank Bldg.
Olivia
Melde, Chris R., Jr.
Owatonna
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Kelly, R. W.,
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Bell, Clifford P., 1279 E. Minnehaha
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Brady, Raymond S., 1530 W. Larpenteur

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Kanun, S. S., 600 New York Bldg.
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Lyons, Esther, 368 Lowry Medical Arts Bldg.
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Thompson, Cornelia M., 101 S. Meremac
Wolff, Roy Michael, 101 S. Meremac

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Ellisville
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Festus
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Conrad, Wm. Lightner, 623 Metropolitan Bldg.
Courtney, Robert M., 236 University Club Bldg.
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Spotts, Wm. B., 519 University Club Bldg.
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Toalson, Margaret, 512 Beaumont Med. Bldg., 3720 Washington
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Olson, Milton C.,

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Domalakes, Edward, Dental Infirmary

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Tracey, H. E.,

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Seberg, J. L.,

Geneva
Kerl, L. H.,

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Ulbrick, George,

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Warren, G. T., 1212 Federal Securities Bldg.
Webster, W. Wallace, 1025 Stuart Bldg.
Weesner, J. E., 616 Sharp Bldg.
Wegener, H. J., 1226 Sharp Bldg.
Weisel, H. K., 1011 Sharp Bldg.
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Bay, Elmer F., 216 Medical Arts Bldg.
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Chapin, James E., 614 Omaha Loan Bldg.
Chapin, R. W., 614 Omaha Loan & Bldg.
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Dailey, E. J., 717 Medical Arts Bldg.
Dienstbier, B., 715 City National
Dunn, Arlo M., 939 Medical Arts Bldg.
Engel, Robert J., 729 Medical Arts Bldg.
Faier, A. D., 1102 Medical Arts Bldg.
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Klein, John A., 601 Barker Bldg.
Kubat, Aloysius A., 5642 S. 22
Kutler, Benton, 316 Brandeis Theater Bldg.
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McDonnell, Hugh, 704 Barker Bldg.
Merchant, Eugene, 1218 Medical Arts Bldg.
Merchant, H. A., 1228 Medical Arts Bldg.
Minarik, B. J., 501 City Nat'l. Bk. Bldg.
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Muller, Cecil G., 1516 Medical Arts Bldg.
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Eckert, Max C., Golden Rule Bldg.
Seward
Maixner, F. W.,
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York
Furst, Lyle W., 602½ Grant Ave.

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Gildone, Mario E., 252 W. First St.
Johannes, Arnold, 129 N. Virginia, Hilp Bldg.
Ostermiller, W. E., 202 California Ave.

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Esersky, Joseph, 8 School St.
Manchester
Berube, Gerald, 621 Hevey St.
Miller, Robert M., 944 Elm St.

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Campi, John, 601 Grand Ave.
Audubon
Pointer, Edward P., 203 Elm Ave., Woodlynne
Bayonne
Steinert, Gerard, 484 Broadway
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Gitow, Samuel J., 234 Washington Ave.
Wilson, Tracie W., 435 Washington Ave.
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Boonton
Colvin, Michael, 103 William St.
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Bound Brook
Levy, Milton, 18 Hamilton St.
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Ludlam, Earl G., 3050 Federal St.
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Heindel, John K., 144 S. Harrison St.
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Elizabeth
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Englewood
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McDonald, Natalie E., 151 Engle St.
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Fair Lawn
Pollack, R., 12-18 River Rd.
Franklin
Shoemaker, Charles P., 113 Main St.
Freehold
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Garfield
Pink, Louis, 64 Passaic St.
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Hackensack
Coolbaugh, Edwin P., 241 Main St.
Cooper, Milton, 241 Main St.
Greenberg, Bernard W., 210 Main St.
Lauer, Fred, 312 Union St.
Mosman, W. A. H., 70 Anderson St.
Whitman, C. L., 268 Moore St.
Hackettstown
Salandi, John W., 197 Main St.
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Grevatt, Edward M., 181 Park St.
Johnston, Donald R., 148 Central Ave.
Morristown
Botkin, C. K., 31 South St.
Brandt, Sidney, 10 Park Place
Delpho, Donald A., 25 Maple Ave.
Swain, Brainerd F., 28 DeHart St.
Newark
Brucker, Marcus, 108 Varsity Rd.
Coppola, Frank R., 948 S. Orange Ave.
Devlin, G. A., 49 Bleeker St.
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Kelsten, Louis B., 299 Clinton Ave.
Kurzrock, A. H., 182 Ferry St.
Medoff, Irving E., 264 Clinton Place
Novich, Samuel S., 502 Sanford Ave.
Pearlstone, Michael M., 16 Johnson Ave.
Radler, Herbert A., 397 Clinton Place
Shapiro, Emil, 493 Central Ave.
Turkenkopf, Samuel, 195 Montclair Ave.
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Olsheim, Sol L., 4621 18th Ave.
Raccuia, Alfred J., 85 Bay 8th St.
Rasi, Hazimeh, 139 Clinton St.
Reina, William F., 145 Seventh Ave.
Rosof, Irving L., 1 Hanson Place
Rubinson, Solomon, 1555 Sterling Place
Santomaumo, Thomas J., 50 Brunswick Ave.
Scheer, William B., 5421 New Utrecht Ave.
Schreiber, Walter, 393 Miller Ave.
Siegel, Samuel R., 1 Hanson Place
Stolzenberg, Jacob, 1 Nevins St.
Weisman, Edward, 51 Eighth Ave.
Whitson, Glenn H., 80 Hanson Place

Buchanan
Behrman, Lawrence A., 107 Bannon Ave.

Buffalo
Bembenista, Henry E., 2060 Clinton St.
Carroll, Kenneth A., 1772 B Kenmore Ave.
Dudley, Daniel C., 240 High St.
Glaser, Clifford, 1255 Delaware Ave.
Greenky, Lewis J., 468 Delaware Ave.
Gugino, Anthony S., 333 Linwood Ave.
Hudecki, Stephen E., 3288 Main St.
Kielich, Raymond, 474 Elmwood Ave.
Kushner, Harold, 3165 Bailey Ave.
Meese, Harold F., 333 Linwood Ave.
Montgomery, Robert L., 675 Delaware Ave.
North, Eugene J., 143 Bryant St.
O'Malley, Jane C., 263 Norwood Ave.
Root, William R., 733 Brisbane Bldg.
Rosenblat, Bernard S., 2040 Delaware Ave.
Rutecki, Thaddeus A., 1305 Broadway
Sandel, Ross C., 1617 Jefferson Ave.
Snider, George H., 40 Barker St.
Strauss, Meyer B., 219 Brunswick Blvd.
Waters, Alfred James, 401 Pine Ridge Rd.

Chatham
Mesick, Charles D., 42 Kinderhook St.

Cheektowaga
Harrington, F. Vincent F., 170 Merrymont Dr.

Churchville
Kendall, Ralph L., 31 W. Buffalo St.

Clyde
Johnson, Stanley L., Glasgow St.

Cohoes
Antonucci, Francis C., 62 Remsen St.

Copiague
Hoffnug, William, Great Neck Rd. & Oak St.

Corning
Bennett, Paul W., English Keenan Bldg.
Buffomante, Angelo A., 29 E. First St.
Keenan, Hugh A. T.,

Corona
Tangredi, Salvatore, 39-19 103rd St.

Cortland
Lewin, Arnold, 53 Main St.

Dansville
Calder, C. A., 105 Main St.

Depew
Ren, Helen R., 66 Main St.

East Hempstead
Kupferman, Franklyn B., 459 Uniondale Ave.

Elmhurst
Gallo, Daniel, 81-46 Baxter Ave.
Hribar, George M., 82-14 60th Rd.

Elmira
Leahy, Anselm J., 520 W. Water St.
Miller, Donald H., 109 Walnut St.
Miller, Earle L., 351 College Ave.
Shepson, Bradford G., 456 W. Water St.
Shipman, William L., 231 E. Water St.

Endicott
Finkelstein, Sam, 1201 Monroe St.
Fisher, Henry R., 14 Garfield Ave.

Far Rockaway
Platt, Stanley, 1240 Beach 9th St.

Floral Park
Berman, Martin, 2 Whitney Ave.
Howard, Richard B., 8 Hinsdale Ave.

Flushing
Joblove, Nicholas S., 147-15 Northern Blvd.
Karlin, Sidney, 39-15 Main St.
Morrow, Samuel H., 77-42 170th St.
Rothman, A. Allen, 180-11 Union Turnpike
Sibilia, M. A., 39-01 Main St.
Wallach, Mark A., 136-31 Roosevelt Ave.

Forest Hills
Besdine, Jerome J., 40 Continental Ave.
Brown, Abraham, 117-20 Queens Blvd.
Delehanty, J. B., 4 Dartmouth St., 3 Garden Apts.
Friedman, Bernard, 65-09 99th St.
Gibson, Joseph A., 102-09 Oscan Ave.
Kornreich, Nathaniel H., 69-11 Yellowstone Bldg.

Freeport
Goldstein, David S., 116 W. Merrick Rd.

Fulton
Simpson, Leigh A., Jr., 311 E. Broadway

Garden City
Stahl, Joseph J., 68 Washington Ave.

Geneva
Mascari, Charles J., 444 Exchange St.

Glen Cove
Granger, R. A., 234 Glen St.

Glens Falls
Colb, Sidney M., 4 Warren St.
Falkenbury, Irving M., 23 W. Notre Dame St.
Yaffee, Morris, 21 Bay St.
Glen Head
Bell, John M., Professional Center, Glen Cove Rd.
Granville
Barrett, A. G., 15 North St.
Great Neck
Lieb, Myron Mack, 9 Maple Dr.
Simmons, Samuel I., 11 Strathmore Rd.
Haverstraw
Kaplan, William, 14 A. Main St.
Hempstead
Gottlieb, Lewis L., 14 Hilton Ave.
Hillyer, Norman L., Professional Bldg.
Pasternak, Richard, 169 Fulton Ave.
Herkimer
Madison, Duane B., Bryne Bldg.
Hewlett
Lucas, Irving, 1226 W. Broadway
Hicksville
Siegel, Herbert, 90 Wolcott Rd.
Hopewell Junction
Taub, Wm. James, Bogardus Lane
Houghton
Fero, Homer J.,
Hudson
Link, Harold, 454 Warren St.
Ithaca
Rubin, Martin, First Nat'l. Bank Bldg.
Jackson Heights
Eisen, Joseph M., 37-03 95th St.
McAuley, James A., 74-16 Roosevelt Ave.
Tobin, Daniel F., 35-21 81st St.
Webb, William R., Jr., 3441 79th St.
Jamaica
Rachunow, J. C., 87-61 Sutphin Blvd.
Taub, Herbert L., 88-56 163rd St.
Jamestown
Phillips, Oliver H., 21 Bailey Bldg.
Keesville
Lamar, Harmont, Front St.
Kenmore
Chase, Clifford A., 840 Colvin Ave.
Christenson, John M., 273 Wardman Rd.
Kingston
Rifenbary, George C., 272 Clinton Ave.
Lackawanna
Lynch, John D., Jr., 738 Ridge Rd.
Pontera, Dobosiewicz Sonja, 584 Ridge Rd.
Lake Success
Anastasio, Alfonso J., 1 Paddock Lane
Larchmont
Karrel, Daniel G., 69 Chatsworth Ave.
Lawrence
Pinto, Biagio N., 11 Central Ave.
Lockport
Kelsey, Harold D., 19 Main St.
Layer, Daniel M., 308 Bewley Bldg.
Long Island City
Hollis, Alfred W., 13-09 40th Ave.
Lynbrook
Edelstein, Martin, 393 Sunrise Hghwy.
Mamaroneck
Bruskin, Harry C., 434 Mamaroneck Ave.
Ross, Bernard, 257 Mamaroneck Ave.
Medina
Trolley, W. R.,
Middletown
Anderman, Irving I., 3 Linden Place
Mt. Vernon
Scola, Joseph P., 30 Cottage Ave.
Swift, Thomas H., 132 Rich Ave.
New Berlin
Miller, Herbert J., 4 N. Main St.
Newburgh
Cutler, Philip, 106 Broadway
Shmagin, Norman, 88 Broadway
New Hyde Park
Dowling, Alan F., 4 Lincoln Ave.
Rudolph, Robert E., 901 Covert Ave.
Spiro, Stanley R., 2204 Hillside Ave.
New Rochelle
Dreizen, Cellock, 650 Main St.
Friedman, Harold, 25 Lockwood Ave.
Ginsburg, Matthew A., 650 Main St.
Kingsman, Philip G., 524 North Ave.
New York City
Ackerman, Jerome B., 424 Madison Ave.
Asgis, Alfred J., 7 E. 42nd St.
Atlas, Raya, 878 W. End Ave.
Basse, Joseph B., 154 Nassau St.
Bastian, C. C., 22 Central Park, S.
Biederman, William, 2 E. 54th St.
Blumenthal, Ernst, 20 W. 86th St.
Boudin, Anna P., 353 W. 57th St.
Brody, Eli S., 57 W. 57th St.
Bronson, David, 200 W. 40th St.
Brophy, Frederick H., 200 W. 59th St.
Bruenn, Anna Louise, 113 W. 57th St.
Bylicky, Henry S., 136 E. 36th St.
Callaway, George S., 654 Madison Ave.
Clug, Bernard, 17 Park Ave.
Corby, Arthur E., 44 Wall St.
Counsell, Lee A., USS Coral Sea CVB-43, c/o F P O
Crespi, Jack, 440 E. 23rd St.
Davenport, Ellsworth, III, 34 E. 51st St.
Diamond, William, 113 W. 57th St.
Dinin, Alex, 3065 Grand Concourse
Di Tolla, Robert J., 50 E. 52nd St.
Dreifus, Max, 140 W. 86th St.
Eisner, Samuel S., 853 Broadway
Eolis, S. Robert, 608 Fifth Ave.
Ferrara, Joseph R., 29 Broadway

Frankel, Herman William, 161 E. 88th St.
Freedman, M. Joel, Suite 2-H, 300 W. 23rd St.
Freedman, Richard A., 155 W. 71st St.
Fried, Isidore I., 587 W. 181st St.
Friedman, J. B., 65 Irving Place
Friend, Arthur A., 100 Central Park, S.
Gary, Joseph, 50 Rockefeller Plaza
Goldberg, Donald S., 730 Fifth Ave.
Goldwasser, Martin, 2112 Broadway
Gould, Joseph M., 549 E. 13th St.
Green, Jerome H., 262 Central Park, W.
Greene, Norman, 101 W. 55th St.
Gutenstein, Erma M., 654 Madison Ave.
Harris, Herman S., 241 W. 97th St.
Hecht, Arthur H., 263 West End Ave.
Hindes, George A., 33 Fifth Ave.
Hogan, William G., 730 Fifth Ave.
Hordes, Samuel, 725 W. 184th St.
Horowitz, Sidney, 57 W. 57th St.
Hyser, Charles L., 5 E. 57th St.
Jay, James, 29 E. 37th St.
Johnson, Emil J., 135 E. 60th St.
Kahn, Arthur E., 266 West End Ave.
Kauffmann, Joseph H., 27 E. 95th St.
Keller, Joseph G., 200 W. 57th St.
Klein, Edward, 2 E. 54th St.
Klein, Harold R., 315 W. 106 St.
Klein, Matthew Kay, 2112 Broadway
Klein, Milton, 2 E. 54th St.
Klein, Samuel A., 49 Fifth Ave.
Kronfeld, Sidney, 36 E. 36th St.
Kunkel, Alfred R., 1001 Grand Concourse
Kutscher, Austin H., 19 E. 83rd St.
LaPook, Sidney, 12 W. 69th St.
Lees, Abraham, 745 5th Ave.
Lieban, E. Alan, 30 W. 59th St.
Marks, Arthur, 27 E. 124th St.
Marone, Concetta P., 211 E. 15th St.
Miller, J. B., 22 Central Park South
Moore, Sherwood Edgar, U S S Olmsted (APA 188) FPO
Mossberg, David, 36 W. 59th St.
Murphy, Joseph M., 501 E. 234th St.
Page, Donald W., 2488 Grand Concourse
Pfeiffer, Frederick F., 654 Madison Ave.
Phillips, Percy T., 18 E. 48th St.
Poggi, Anthony J., 15 King St.
Polk, Hector, 2350 Broadway
Porter, Lowrie J., Fuller Bldg., 41 E. 57th St.
Price, George L., 31 Union Square, W.
Pullman, Edward, 515 Madison Ave.
Rapkin, Clara, 5 E. 63rd St.
Ritt, Robert, 30 W. 59th St.
Robinson, Marvin G., 20 W. 72nd St.
Roman, Stanford H., 2163 Eighth Ave.
Rosenfeld, Walter I., 172 W. 79th St.
Rosenstein, Solomon N., 630 W. 168th St.
Rubin, Irving Lee, 215 W. 98th St.
Rubinstein, Murray N., 200 Central Park, S.
Salzmann, Jacob Amos, 654 Madison Ave.
Samuels, Isidore M., 8 Grammercy Park, S.
Sansone, Peter A., 162 W. 13th St.
Sardell, Harry, 2 E. 54th St.
Schwartz, Milton, 113 W. 57th St.
Seldin, Harry M., 57 W. 57th St.
Sheckman, Nathan M., 64 Metropolitan Oval
Shore, Nathan A., 551 Fifth Ave.
Sillman, J. H., 667 Madison Ave.
Standard, Stanley G., 225 W. 34th St.
Stark, Alfred Bert, 41 Park Ave.
Strusser, Harry, 949 Broadway
Sved, Alexander, 654 Madison Ave.
Thesman, Herman, 501 Madison Ave.
Ursini, George, 205 E. 69th St.
Vidair, Robert, 35 E. 65th St.
Vogelson, Gabriel R., 944 Park Ave.
Weintraub, David, 347 First Ave.

Niagara Falls
Nolfe, C. P., 639 Seventh St.

North Collins
Fregelette, James V., 125 Main St.

Northport
Kaplan, Joseph B., 225 Main St.

Ocean Side
Rossein, Withal, 3093 Brower Ave.

Oneida
Cleary, Edward Joseph, 112 Farrier Ave.

Ossining
Wachtel, Leonard, 160 Croton Ave.

Ozone Park
Bell, Willard S., 118-02 Rockaway Blvd.
Carey, Robert William, 97-23 Eckford Ave.

Patchogue
Snell, Frank Stryker, 81 E. Main St.

Penn Yan
Salisbury, R. M., 120 Main St.
Wheeler, J. Harvey, 101 Main St.

Phelps
Kenfield, Clifford J., Ontario Telephone Co. Bldg.

Pittsford
Carlson, Glen W., 7 S. Main St.

Plattsburg
Del-Zio, Arthur, 57 Clinton St.
Rowlson, Ira A., 34 Margaret St.
Stevenson, Hollis C.,

Pleasantville
Finkelstein, Selig, 42 Wheeler Ave.

Point Pleasant
Jacobs, D. W., 4161 Culver Rd.

Port Chester
Marcus, Leonard, 216 Westchester Ave.

Port Richmond,
Pearson, Thomas H., 151 Richmond Ave.

Port Washington
Mirchel, Frank A., 104 Highland Ave.
Poughkeepsie
Bedell, Walter R., 49 Market St.
Erdreich, Ulysses, 70 Market St.
Peltz, Jerome, 328 Main St.
Sitomer, Maurice, 4 Raymond Ave.
Stevens, Walter Wallace, 54 Noxon St.
Rensselaer
Stern, Fred I., 21 Second Ave.
Ridgewood
Treiber, John C., Peoples Nat'l. Bank Bldg., 58-22 Myrtle Ave.
Rochester
Arem, Irving, 1399 Monroe Ave.
Bibby, Basil G., 800 Main St., E., Eastman Dental Supply
Bowman, Harold D., Rm. 804, 89 East Ave.
Carroll, Edward T., 1325 Lake Ave.
Desiderio, Francis A., 187 Cumberland St.
Doty, Ernest C., 393 Merchants Rd.
Fadden, Leigh E., 920 Winton Rd., S., Brighton Medical Center
Fenmore, Nathaniel, 304 Medical Arts Bldg.
Frank, Barnett, 917 Temple Bldg.
Galbraith, Robert M., 208 S. Landing Rd.
Gray, Willard A., 277 Alexander St.
Isaacson, Bernard, 586 Joseph Ave.
Jamison, Brownell R., 172 Alexander St.
Katzman, Irving, 1417 Temple Bldg.
Lichtenfeld, Eva, 35 Chestnut St., 604 Professional Bldg.
Lyboldt, Howard F., 1005 Temple Bldg.
Martin, Joseph W., Jr., 399 Seneka Pkwy.
McKinnon, Malcolm J., 25 North St.
Pammenter, Elmer J., 92 Pine Grove Ave.
Rohrer, Henry D., 636 Sibley Tower Bldg.
Rosenberg, Martin, 512 Sibley Tower Bldg.
Rosner, David L., 83 Merriman St.
Seldon, Meyer, 747 Main St., W.
Shulman, Milton M., 24 N. Goodman St.
Silha, Joseph F., 1390 Culver Rd.
Springer, Wilfred A., Medical Arts Bldg.
Wiser, Bernard F., 202 Taylor Bldg.
Rockville Centre
Bickel, G. A., 80 Hempstead
Lusterman, Edward, 253 Sunrise Hghwy.
Rome
Eames, James B., 118 W. Thomas St.
Real, James B., 604 N. Joy St.
Roslyn
Lipman, Stanley M., 1322 Northern Blvd.
Roslyn Heights
Siegel, Irwin, 55 Parkside Dr.
Rye
Zimmerman, I. Edwin, Purchase St. Cor. Elm Place
St. Albans
Hoffman, Arthur J., 199-16 111th Ave.
St. James
Hanover, Jack Martin, Old Post Office Bldg.
Seaford
Goldstein, Jacob M., 3927 Merrick Rd.
Saratoga Springs
Roohan, Leo W., Jr., 360 Broadway
Schenectady
De Luke, Dominick J., 610 Union St.
Fisher, Weller J., 11 S. Church St.
Marwill, Ralph S., 606 State St.
Miller, G. W., 619 Union
Schlansker, Wm. P., 1721 Union St.
Scotia
Coppola, Samuel, 234 Mohawk Ave.
Sidney
Rothman, Fred, 83 Main St.
Snyder
Meyer, Carlton W., 4545 Main St.
Springville
Schweizer, J. O., 157 Main St.
Stapleton
Freilich, Norman Lincoln, 187 Broad St.
Staten Island
Barton, Roger W., 5881 Amboy Rd.
Kerr, Norman M., 322 Oakland Ave.
Rosenberg, A. C., 19 Rhett Ave., G. K. #8
Syracuse
Chrabasz, Sigmund W., 916 Park Ave.
Cramer, Henry, 717 Genesee St., E.
Flatt, J. M., 1423 Butternut St.
Mahoney, John A., 330 Delaware St.
Malfitano, Anthony A., 2105 W. Genesee St.
Tonawanda
Cutler, Alvin B., 16 Young St.
Lichtman, Samuel, 16 Young St.
Troy
Levinstein, Arthur, 44 4th St.
Sherman, Robert F., 205 Fifth Ave.
Wallace, Donald, 1915 Fifth Ave.
Tuckahoe
Agatston, Arnold S., 8 Depot Square
Walters, Thomas H., 11 S. High St.
Utica
Freund, Margaret S. Z., 1213 Court St.
Slavin, Sidney I., 1438 Genesee St.
Valley Stream
Eldred, S. Huyler, 34 Fletcher Ave.
Kuthy, J. A., 6 Central Court
Watertown
Adragna, Santina, 33 Unity Bldg.
Gimigliana, Nicholas F., 14 Unity Bldg.
Houghton, William George, 644 Woolworth Bldg.
West Hempstead
Rasweiler, John J., 579 Hempstead Ave.
White Plains
Hildes, Lyonel S., 6 Chester Ave.
Kobren, Abraham, 8 Mamaroneck Ave.
Maslansky, M. M., 49 Longview Ave.

Prezzano, Wilbur J., Medical Centre
Thomas, Evelyn A., Battle Hill School
Zappler, Harry Sil, 33-35 Davis Ave.
Zappler, Sylvia E., 33 Davis Ave.

Williston
Lang, David, 24 Hillside Ave.

Woodmere
Nadelbach, Stuart E., 37 Woodmere Blvd.

Woodside
Linek, William B., 64-02 39th Ave.
Tartaro, Anthony C., 48-44 44th St.

Yonkers
Capurso, George J., 334 Glen Hill Ave.
Fingeroth, Murray M., 632 McLean Ave.
Luban, Joseph, 30 S. Broadway
Mason, Robert I., 774 N. Broadway
Rosenber, Arnold, 20 S. Broadway

NORTH CAROLINA

Asheville
McFall, Walter, 602 Flatiron Bldg.

Chapel Hill
Brauer, John C., University of North Carolina, School of Dentistry
Burket, John F., School of Dentistry, University of North Carolina
Demeritt, William W., University of North Carolina, School of Dentistry

Charlotte
Freedland, J. B., 1206 Liberty Life Bldg.
Stadt, Zachary M., Health Dept.

Gastonia
Rhyne, Howard S., 211 W. Main Ave.

Mount Airy
George, Robert A.,

Raleigh
Barnhill, J. H., State Board of Health
Pearson, E. A., Jr., 410 Professional Bldg.

Salisbury
Young, D. C., Jr., 212-213 Wallace Bldg., P. O. Box 270

NORTH DAKOTA

Fargo
Kostelecky, William, 407 First Nat'l. Bank Bldg.
Olson, O. T., 107½ Broadway
Papermaster, A. A., 64½ Broadway

LaMoure
Hocking, C. W.,

Minot
Bergem, R. M., 916 4th Ave., N.W.

New Rockford
Braxmeier, F. C.,

Wahpeton
Pfister, H. H.,

OHIO

Akron
Barlow, Hal E., 314 Ohio Bldg.
Ream, W. J., 522 Second Nat'l. Bldg.

Canton
McConnell, H. W., Peoples Bank Bldg.
Porter, Robert S., 239 30th St., N.W.

Chagrin Falls
Ellis, Paul J., c/o Mr. W. T. Adams, R. D. #5

Cleveland
Adelstein, Herbert L., 2010 E. 102nd St.
Basista, R. E., 13854 Cedar Rd.
Beatty, R. C., Hanna Bldg.
Beljan, Matthew R., 6411 St. Clair Ave.
Bent, George, Jr., 9127 Miles Ave.
Biales, Louis B., 10465 Carnegie Ave.
Bosch, M. R., 13357 Lorian Ave.
Broglio, R. B., 22050 Lake Shore Blvd.
Bruckner, R. J., 2085 Adelbert Rd, c/o W R U
Burwasser, Philip, 2085 Adelbert Rd.
Caldwell, C. J., 3886 Rocky River Dr.
Cohn, Samuel S., 2039 E. 100th St.
Cooper, R. S., 13224 Shaker Blvd.
Courtney, James A., 10465 Carnegie Ave.
Creig, Ralph E., 10465 Carnegie Ave.
Curran, Bruce A., 13210 Shaker Square
David, Regina, 10465 Carnegie Ave.
Denner, Norman H., 954 Rose Bldg.
Donner, Walter O., 1674 E. 55th St.
Ericsson, Carl J., 14805 Detroit Ave.
Goldblatt, Louis, 12710 Barrington Ave.
Green, Edward J., 3697 E. 131st St.
Grubb, Sheldon, 1322 Hanna Bldg.
Hill, Thomas J., 2085 Adelbert Rd.
Hollander, Ralph F., 610 Hanna Bldg.
Kaber, G. W., 531 E. 185th St.
Killelea, E. R., 14602 St. Clair Ave.
Kmieck, A. J., 2616 W. 14th St.
Kniesner, Albert H., Osborn Bldg.
Lanese, John J., 3883 Mayfield Ave.
Law, H. J., 14805 Detroit Ave.
Leavitt, Robert I., 2039 E. 100th St.
Lerch, Guy S., 834 Rose Bldg.
L'Orange, Finn F., 12734 Woodland Ave.
Lybarger, G. S., 10535 Carnegie Ave.
Malson, T. S., 1038 Keith Bldg.
Masin, Leopold F., 4217 E. 131st St.
Maurer, Walter H., 9917 Euclid Ave.
Miller, E. Carl, 13859 Euclid Ave.
Muehlhause, Carlyle, 14583 Madison Ave.
Nagy, Joseph Emerich, 12304 Buckeye Rd.
Nelson, H. A., 174 E. 196th St.
O'Reilly, T. H., 4275 Pearl Rd.
Peters, A. C., 9400 Euclid Ave.
Pettibone, E. L., 14805 Detroit Ave.
Phelps, A. C., 1140 Hanna Bldg.
Rabine, Milton, 9917 Euclid Ave.
Reifke, John T., 912 Rose Bldg.
Rice, R. C., 4486 Mayfield Rd.
Riemenschneider, H. M., 6603 Detroit Ave
Robbins, Samuel M., N. 960 Rose Bldg.

Ruzicka, Stanley J., 4401 Clark Ave.
Sadd, Albion F., 7904 Superior Ave.
Sanfilippo, James J., 9734 Lorain Ave.
Scaravelli, Salvatore J., 1148 Euclid Ave.
Schultz, Chester J., 10465 Carnegie Ave.
Sheakley, H. G., 13224 Shaker Square
Sheehe, Charles, Jr., 10122 Lorain Ave.
Siebert, Marvin S., 1959 E. 79th St.
Stark, Carl, Keith Bldg.
Stillson, William C., 10208 Euclid Ave.
Stovsky, Wm. M., 12403 Superior Ave.
Suit, Stanley R., 13237 Superior Ave.
Tapper, Irving B., 630 Rose Bldg.
Tuma, Clarence Frank, 13201 Miles Ave.
Vath, Charles, 13237 Superior Ave.
Walter, Frank E., 9400 Euclid Ave.
Whelan, Richard L., Hanna Bldg.
Witmer, C. E., 1159 E. 79th St.
Zilko, Michael J., 7039 Superior Ave.

Cleveland Heights
Colebrook, N. C., 2163 Lee Rd.
Gellin, Milton E., 13178 Cedar Rd.

Columbus
Johnson, LeRoy, 320 Beggs Bldg.
Miller, D. C., 40 S. Third St.
Pettit, Lyle Smith, 327 E. State St.
Sigafoos, George W., 21 E. State St., Rm. 314

Dayton
Barth, Jack E., 2027 Glen Rd.
Webber, David L., 320 Ryburn Ave., Apt. 3A
Wilson, James L., Jr., 907 Riebold Bldg.

East Cleveland
Melnick, Herbert S., 1391 Hayden Ave.
Melnick, Paul J., 1391 Hayden Ave.
O'Leary, Raymond L., 13523 Euclid Ave.

Fairview Park
Hoffner, B. L., 22020 Lorain Rd.

Jackson
Michael, D. E., 19 Harding Ave.

Kent
Hoskins, Richard L., 148 S. Water St.

Lakewood
Derrer, William H., 14717 Detroit Ave.
Hefrechter, D. C., 14717 Detroit Ave.
Hoehn, S. E., 304 Detroit Cook Bldg.
Keidel, G. E., 15017 Detroit Ave.
Poser, Carl R., 19035 Detroit Ave.
Sprague, Howard A., 14805 Detroit Ave.

Lyndhurst
Levenson, Myron E., 5351 Mayfield Ave.

Norwalk
Johnson, Robert E., Citizens Bank Bldg.

Parma
Schuckert, John J., 5788 Ridge Rd.

Toledo
Bach, E. N., 305 Professional Bldg.
Cox, John E., 1133 Radcliffe Dr.
Skalski, Val Rogers, 2802 Barrington Rd.

University Heights
Mandel, Frank P., 3490 Raymont Blvd.

Willoughby
Scott, George C., 26 Euclid Ave.

Xenia
Schueller, John W., O. S. & S. O. Home

Youngstown
Greenberg, Milton E., 806 Central Tower Bldg.
Morrison, R. G., 1506 Market St.
Soller, Karl E., 4301 Helena Ave.
Westerfield, John H., 101 W. Federal St.

OKLAHOMA

Clinton
Sebert, C. A.,

Enid
Webber, George R., 1310-11 Broadway Tower
Whiteneck, Otho R., 401-04 Broadway Tower Bldg.

Norman
Easterling, H. C., 206 Security Nat'l. Bank

Oklahoma City
Flesher, W. E., 806 Medical Arts Bldg.
Lucas, L. A., 509 N.W. 11th St.
Robertson, Dean, 434 N.W. 13th St.
Russman, Sumner, 809 Medical Arts Bldg.

Okmulgee
Taylor, R. B., 423½ E. 5th St.

Tulsa
Caudle, Benjamin D., 1622 S. Boston
Oliver, Richard T., 3505 S. Peoria
Yeager, R. J., 504 Medical Arts Bldg.

OREGON

Bend
Alpin, L. W., Rm. 5, Penney Bldg.

Eugene
Hilles, Richard P., 318 Medical Center
Lee, Norman, Tiffany Bldg.

Hillsboro
Dresser, Ralph,

Hood River
Gaulke, S. R., 414 Eugene St.
Ireland, H. E., Grass Bldg.

Klamath Falls
Negrevski, John A., 110 N. 6th St.

Lebanon
Woods, Clarence A., 35 E. Sherman

McMinnville
Eastman, D. C., Fenton Bldg.

Medford
Goodrich, George K., 303 Fluhrer Bldg.

Milton Freewater
Harstad, William,

Portland
Barnum, William L., 559-561 Morgan Bldg.

Bojinoff, Sam, 1212 Weatherly Bldg., S.E. Grand Ave. at Morrison
Blumenthal, Edgar, 2627 N.E. 7
Dickson, John P., 8644 S.E. Cornwell Ave.
Dryden, Alfred Earl, 853 Morgan Bldg.
Erwin, Ralph M., Jr., 911 Selling Bldg.
Frazier, H. N., 7325 N.E. Sandy Blvd.
Galloway, D. L., 802 Selling Blvd.
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Failer, Carlton B.,
De Pere
Sterr, A. M., 506 George St.
Edgerton
Dodson, Leslie E., 8 E. Fulton St.
Green Bay
Gilling, Joseph J., 411 Bellin Bldg.
Harrington, E., 308 Northern Bldg.
Kwoterski, D. V., 717 Bellin Bldg.
Nockerts, K.,
Verhage, A. J., 1294 Division
Kenosha
Flatley, L. James, 6225 22nd Ave.
Gabe, George C., 625 57th St.
Hammond, R. M., Orpheum Bldg.
Heller, Robert L., 723 58th St.
Lane, Thomas B., 621 58th St.
Minshall, Otto E., 5925 6th Ave.
Pacetti, A. E., 3804 60th St.
Kiel
Baus, V. A.,
La Crosse
Barton, H. L., 927 State St.
Cross, John C., 418 Exchange Bldg.
Schneider, R. J., 210 Linker Bldg.
Madison
Gilbert, B. W., 315 Blackhawk Ave.
Johnson, Evertt F., 1024 Tenney Bldg.
McCormick, L. Riley, 2609 University Ave.
Neely, M. C., 1517 Monroe St.
Seybold, John K., 122 E. Johnson St.
Simley, A. C., 2037 Winnebego St.
Thielke, C. W., 2509 University Ave.
Turk, A. F., 401 Highland Ave.
Manitowac
Vollendorf, Harvey H., 811 York St.
Milwaukee
Abbott, Thomas R., 604 N. 16th St.
Bennett, Arthur, 604 N. 16th St.
Blaisdell, Ralph C., 208 E. Wisconsin Ave.
Darling, J. W., 3118 N. Downer Ave.
Evans, L. M., 3229 N. 38th St.
Fleege, Francis J., 604 N. 16th St.
Gehl, A. P., 401 Medical Arts Bldg.
Gerlach, Lester A., 425 E. Wisconsin Ave.
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Laun, E. A., 3319 N. 24th St.
Morgan, George E., 2018 E. North Ave.

Nesbit, Robert, 425 E. Wisconsin Ave.
Watson, H. J., Sr., 231 W. Wisconsin Ave.
Wehrley, O. M. J., 606 W. Wisconsin Ave.

Monroe
Usher, J. H., White Block

Neillsville
Lee, Ell. L., Marsh Bldg.

Oshkosh
Herman, R. E., 102½ Main St.
Mortell, J. F., First Nat'l. Bank Bldg.
Pirus, A. L., 46 Washington Blvd.
Stearns, R. H., 304 First Nat'l. Bank Bldg.

Rice Lake
Brekke, Richard N.,
Jolin, Raymond E.,

Sheboygan
Brehmer, Carlton, 809 N. 8th St.

Stevens Point
Crosby, Leland B., 806 Main St.

Sun Prairie
Moldenhauer, Carl A., 103 E. Main St.

Waukesha
Newby, Wayne W., 310 W. Broadway

Wausau
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Albrecht, A. W.,

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West, Mark,

Casper
Hocker, W. A., 212 O. S. Bldg.
Ward, Thomas A., Rm. 326, Wyoming Nat'l. Bank Bldg.

Cheyenne
Beard, Shirley C., 815 E. 17th
Francis, A. L., 2520 Capital Ave.

Rawlins
Pepper, James, #5 First Nat'l. Bank Bldg.

Rock Springs
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Didsbury
McNichol, Chalmers,

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Blaquiere, R., 300 Birks Bldg.
Brass, G., 254 Birks Bldg.
Eastwood, B. J., 348 Birks Bldg.
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McIver, William A., 321 Tegler Bldg.
Orobko, Wm., 300 Birks Bldg.
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Revell, A., 313 Birks Bldg.

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Dent, R. J., 3472 Combie St.
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Hastings, W. G., 1735 W. Broadway
Jinks, Gordon M., 1735 W. Broadway
McDonald, D. B., 925 W. Georgia St.
Marshall, F. James, 876 Broadway
Michalson, M., 2493 Commercial
Nacht, Max, 825 Granville St.
O'Neil, Robert John, 2525 Pine St.
Scharff, R. L., 718 Granville St.
Toughey, J. Vance, 1186 Nicola St.
Tully, R., 718 Granville St.
Waterman, M. J., 2268 W. 41st
Wright, O. F., 4014 Gambie St.
Yorsh, R. I., 194 E. King Rd.

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Lind, L. O., 520 17th

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Bourgeois, A., 343 Tache Ave.
Winnipeg
Schadek, W. J., 1835 Portage Ave.

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Langstroth, Robert S., Dir. of Dental Health Dept., Dept. of Health

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McGuigan, James P., Birks Bldg., Barrington St.

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Niagara Falls
Smeaton, William B., 1848 N. Main St.
Ottawa
Beach, Harold N., 150 Melcalfe St.
Derrick, M. M., 150 Metcalfe St.
Peterborough
Craig, J. J., 146 Hunter St., W.
Honey, R. C., 327 Charlotte St.
St. Catherines
Parks, M. C., 48 James St.
Toronto
Boyes, Mark G., 3032 A Yonge St.
Chapnick, G., 713 Spadina Ave.
Grant, E. A., Dept. of Public Health
Gullett, Don W., 234 St. George St.
Johnston, Gordon W., 533 St. Clair Ave., W.
Jolley, H. M., 4 Madison Ave.
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Lightman, I., 823 Eglinton Ave., W.
MacGregor, S. A., 3032 Yonge St.
McColeman, W. J., 2028 Avenue Rd.
Wood, A. W. S., 2842 Bloor St., W.
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Montreal
Walsh, Cameron T., 1414 Drummond St.

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Eston
Kjorven, Lloyd N.,
Saskatoon
Dickson, Ray E., 410 Canada Bldg.

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Foure, J., 59 rue La Boetie

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Castro, Maria Elena, Berriozabal #1, Tlalnepantla
Fastlicht, S., Madero 40, Desp. 102
Leycegui, Felix R., Apartado 1737
Ramirez, Antonio Fragoso, Insurgentes 56-4

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Montevideo
Navarra, Maria Ines, Colonia 1342 esc 7

VENEZUELA

Caracas
Peraya, Jacques, Apartado 2062

PEDODONTISTS

Below are listed dentists who specialize in dentistry for children, according to the records of the American Dental Association. Addresses of those who are members of the American Society of Dentistry for Children will be found in the pages of our Directory.

Beechen, I. Irwin
Bell, Alex R.
Bierman, Claude W.
Binstock, Mervin L.
Birnie, Gordon L.
Brown, William E., Jr.
Cabot, Joseph
Caudle, Ben D.
Clayton, John M.
Demeritt, William W.
Erwin, R. M., Jr.
Harris, Samuel D.
Hautsook, Joseph I.
Hughes, John M.
Hunnicut, Willard T.
Ireland, Ralph L.
Johnson, Vincent M.
Kohn, Sidney I.
Kopel, Hugh M.
Lamons, Frank F.
Lampshire, Earl L.
Ludington, P. J.
MacVicar, Neil S.
McBride, Walter C.
McClenathan, H. E.
Mohnke, Clifford A.
Morgan, George E.
Noonan, Melvin A.
Olson, Arthur L.
Peabody, J. B.
Rabinowitch, Bernard Z.
Robertson, Dean
Rose, A. Wayne
Russman, Sumner A.
Scharfenberg, Ross F.
Schildwachter, Elsie C.
Schofield, James G., Jr.
Seylor, Alfred E.
Stine, Corvin F.
Stulberg, Samuel
Teuscher, George W.
Thompson, Cornelia M.
Weisz, Walter S.

"Little can be accomplished for grown up people; the intelligent man begins with the Child."

—Goethe

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This issue of

the Journal of Dentistry for Children

is respectfully dedicated to

DR. SAMUEL D. HARRIS

in recognition of his efforts as founder of

the American Society of Dentistry for Children

and Editor of its first publication, the Review of Dentistry for Children.

Honorary life memberships in the American Society of Dentistry for Children were awarded Mrs. DeLos L. Hill, of Atlanta, Ga., and Dr. Samuel Harris, of Detroit, at the Society's 25th annual meeting in St. Louis. Mrs. Hill is the founder of the children's dental clinic at Emory University School of Dentistry, only clinic of its kind in the South, and Dr. Harris was honored as the founder of the Society. From left to right are: Dr. Frank F. Lamons, of Atlanta, former president of the A. S. D. C.; Mrs. Hill; Dr. Harris, and Dr. Earl L. Lampshire, of Lincoln, Neb., 1951–52 A. S. D. C. president.

The First Twenty-five Years

WALTER C. MCBRIDE

Editor's Note:

Although the accompanying dissertation must necessarily fall short of its original appeal when delivered in person by our suave and entertaining friend Walter McBride, we think you will enjoy reading it as a resume of the early times of our Society. It was presented at our Silver Anniversary Banquet in St. Louis, September 7, 1952.

A. E. S.

Once upon a time, which now seems like eons ago, when I was endeavoring to get the manuscript of my first edition of Juvenile Dentistry published I had a brief and disillusioning conference with the elderly Mosby of the Mosby Publishing Company in St. Louis. He had retained my manuscript well over a year with no comment so I stopped by enroute to the Memphis meeting to see what 'twas all about. Having published one book on Children's Dentistry I presume he was reticent to take on a second—or perchance he thought the manuscript did not speak for itself—and with this in mind he was endeavoring to give me some reason for his refusal, and thus let me down easy. His intention may have been kindly but his expressions proved humiliating as he sat there strumming the desk with his fingers, while looking abstractedly out the window. Said he suddenly, as if he had just returned from some foreign whereabouts, "You know dentists don't read books, don't read anything in fact, they're a bunch of ignoramuses. Out in the West where I came from they class them along with the peons—and a peon, young man, is a chap who goes out with his flock in the Spring and returns with 'em in the Fall".

Flabbergasted, yet with some audacity, I asked, "That's such a colorful classification, will you repeat it for me, I don't wish to miss a word of it!" Which he did, verbatim. I inquired, "Are the medics any better?", to which he replied, "Some, but not much".

I was angered at the time, and embittered at the old codger ever since for his disrespect for the two professions from which he had conscripted such a fine livelihood. And when you emerge from the first effect of this verbal slaying you'll be appalled and angry too. Yet with all due respect for the reason for his unlofty opinion of us then, I'm sure the old gentleman would retract his statements if he were hereabouts today to witness this fine occasion and view dentists and dentistry anew.

This *IS* a great day for Children's Dentistry and I am happy and proud to take an active part in this celebration. This is the culmination of great romantic effort on the part of many here, many who have sponsored the growth of the organization and spread the gospel of children's dentistry with the same zest with which they have pursued their practices or teaching assignments. Some here have made great sacrifices, economically and otherwise, to encourage a better feeling between the family dentist and his child patient. I often think of Walter McFall, particularly—now "Evangelist McFall"—who for years travelled the

south like a trooper, without honorarium or expense account, to promote and encourage more and better dentistry for the kids. He is to be commended especially for the fine job in his native state of Georgia, where the dental division of the health department has long been outstanding in its efforts in behalf of the young generation. Others here too, have been equally as instrumental in similar projects in their native communities.

My assignment in this celebration is to parade before you, verbally, the historical aspect of this organization. It's a prosaic task, I well recognize, fraught with the hazard of being tedious and boresome to many here assembled. As a sleep repellent I have considered all kinds of measures and devices which might be employed but to no apparent avail. Most of those which I have appraised have been found wanting, either because of lack of intensity or because they might not lend dignity to the occasion. I recognize full well that an historical presentation should be scholarly, but I find that difficult. It isn't my style. I can do better mixing things up a bit—a little of this and some of that, with some nonsense to relieve the monotony. Perhaps "scrambled" is the word for it.

My closest neighbor, who is quite a noted urologist in our city, and a very sedate and serious-appearing individual was recently hospitalized for a short time while recovering from a case of pneumonia. He narrates, with great merriment, an incident which occurred while there. He was on the mend he said, because like all his patients he was beginning to get grumpy and critical. This particular morning he was unusually out of sorts because for once he felt like sleeping in yet he had been awakened as usual at 5.30 for his face-washing prior to breakfast at six. He wasn't relishing the idea of breakfast anyway because hardboiled eggs, which he detested, were always on the menu, and particularly so because yesterday's hardboiled eggs had been ice cold. So, when the nurse appeared promptly with the tray he was in fine fettle and began a long tirade about cold eggs. "She stood there stoically holding the tray", he said, "until I had exhausted myself and finally ran down and then she chirped gleefully, "I have news for you, Buster, these are scrambled!"

Children's Dentistry has grown up. One can tell by the general overall sentiment. When folks gather at state and national meetings and an average portion of them select programs in the children's section then children's dentistry has grown up. Times were, you will recall with chagrin, when this was not so. When practitioners in favorable numbers report for the many week and two-week refresher courses given by dental schools, or for the one day-per-week course on a yearly basis; when students in fair proportion remain on after graduation to avail themselves of an additional three semesters in academic work with a Master of Science degree as an incentive; and when many young graduates are filling the dental rosters of philanthropic organizations who cater to the needs of the child, then one knows that children's dentistry has grown up.

One can tell, too, from the changing attitude of lay people. Pedodontists, particularly in metropolitan areas are beginning to be as acceptable to lay people as pediatricians. Fewer of them, true, but equally as acceptable and desired. No longer are we thought of as possible monstrosities or with Houdini-employed procedures, or peculiar to the point past the stage of oddity. Nowadays children's dentists are people too. I like

to relate the story of some twenty years ago in which a pedodontist was introduced socially as a children's dentist. Without much thought given to the aspect of the expression one lady present turned to her husband and remarked in all sincerity, "We met a children's dentist at the Smith's a year ago", and then turning to the group as a whole, continued, "He was such a nice chap. I felt sorry for him that he couldn't have gone on and finished his course, so he could work for grownups too".

One can tell, too, from the changing attitude of his confreres. When I left dental school in 1922 children's dentists were folks to be pitied. Family dentists were always entertaining great pity for one—at least such was obvious by the verbal and physical expressions—and too often the condescending remark was made on chance meetings and at dental gatherings, "Are you still fooling around with the kids?" But things have changed now, thanks partly to a great depression in the early thirties which for economical reasons forced dentists to recognize the fact that child patients were important people—important if for no other reason than because there were so few adults seeking dental services, and secondly, thanks to the changing attitude of the great leaders in the American Dental Association. Nowadays one's confreres on chance meetings and at dental gatherings, step up and ask, "How's business?" just as if he were a regular dentist!!

One of the great handicaps to the growth of this organization—as well as the growth of sentiment in behalf of children's work, has been the fact that it has been a pioneering task. Pioneering is a difficult chore. Nothing is acceptable at first. One must prove every point and every issue against the greatest obstacle of all—precedent.

Another threat to going along comfortably has been the antics of the new converts—those who suddenly decided ours was a good bandwagon on which to ride. Too much suddenly acquired enthusiasm for an idea or a commodity is a dangerous thing. A teaspoonful of castor oil is excellent for a child on occasions yet if one pursues the thought, that if a little is good a lot will be better, the child will soon be possessed with serious difficulties. A little strychnine will exhilarate an orchestra conductor to where he presents a brilliant performance, yet if in his enthusiasm he takes an ounce there obviously will be one less musician. The religious convert, with his rabid and unseasoned thinking too frequently embarrasses his clergyman and fellow parishioners. In a similar fashion the new convert to children's dentistry—and I refer to those who in midstream, so to speak, suddenly become aware of the fact that children make good patients and children's work need not be free or handled in lagniappe fashion—routinely embarrasses his seasoned contemporaries. The clinics one attends, the lectures one hears, and the articles in the journals, when provided by these individuals are juvenile and repulsive. We have grown up in scholarly fashion to achieve a place of distinction and respect from our colleagues, and so I am annoyed and discouraged when a burlesque or travesty is made of the operative procedures and the relationship problems of dentists and their young patients.

Still another unsolved problem is how to supply the great need and demand for children's dentistry. The New Zealand plan, while apparently workable there, is far from acceptable to the ADA and definitely not to the members of this group. I'm sure I voice the sentiment of this body in stating that if we are to

have dentists educated in an abbreviated term, the education should not be in Children's Dentistry, but in Prosthetics, with the practices limited to the elderly.

Historically speaking it might be interesting to some here to know that the American Society of Dentistry for Children is not the first organization effected for this scope of dentistry.

Back in 1921—when the ADA met in Milwaukee, a group of men interested in Children's Dentistry gathered at luncheon and initiated the first organization in behalf of Children's Dentistry. The following year, at Los Angeles (1922) with eleven members present, a half day program was shared with the Mouth Hygiene section of the ADA, while at the same session the American Society of Pedodontists came in to existence. Tom McCrum of Kansas City was the first president with Paul Barker of Denver as Secretary.

The organization was not longlasting however because of the limitation of its membership—only pedodontists in private practice could belong—and because at that time there was but a handful of men engaged in the practice of Children's Dentistry. Besides, it takes great enthusiasm and organizational ability to foster any new society—factors which were then obviously absent. And so the group fell in to a state of dormancy.

Then in 1925, one Sam Harris returned to Detroit from a year's internship at Forsyth, imbued with the idea that a national organization was possible. And so it was, with Sam's enthusiasm and with his organizational ability. The following year, with the Detroit Pedodontic Study Club as a background and focusing point, he began the spade work for a big Children's Dentistry conclave at the forthcoming ADA meeting in Detroit. And there on Wednesday October 28, 1927, fifty-six persons, from all parts of the United States, gathered to effect a skeletal organization and give birth to what is now our American Society of Dentistry for Children.

Dr. Harris, with the approving word from a number of interested dentists, had prepared a constitution in advance, which was unanimously adopted at that meeting with the exception of the proposed name. It was designated in the constitution as the American Pedodontic Society. Doctor Rhobotham of Chicago objected to the name, lest it become confused with the inactive society of the same name. Further, to increase the scope of its membership possibilities, that family dentists, teachers, clinicians in institutions for children, public health dentists—in fact, that any or all dentists who were members of the ADA—might become members, he proposed the name be, "The American Society for the Promotion of Children's Dentistry". That name was adopted and was in use for a number of years until changed by the governing Board, first to the American Society of Children's Dentistry and finally to the American Society of Dentistry for Children.

A very interesting sidelight occurred at this organizational meeting which bears mention at this time because it is humorous retrospectively, yet 'twas a very sad occasion for the two of us, at the time. Our Pedodontic Study Club sponsored this luncheon and as such was responsible for the cost. It was agreed beforehand that before the last course either Sam or I would collect the price of the luncheon from each guest. But we were busy neophytes flitting about looking after the details of the affair and meeting the national big-wigs who were present, and in so doing totally forgot the task. Finally, much past the hour of

two, when the meeting suddenly terminated and the guests as suddenly departed for their various clinic sessions, we were left holding the bag, or rather the check! The deficit practically broke our little organization and Sam and I were crestfallen when we faced the local membership at the next meeting to explain our custodial inefficiency. But they were a benevolent group and after having given us the customary and much-due raspberry, agreed it was for a good cause and though we were now poor, we would be rich in heritage for having given the first impetus to a fine organization!!

To be real sincere, I presume I became the first president of this Society, and Sam its first secretary, because we were president and secretary respectively of the sponsoring group, and the voting guests doubtless assumed we were as sufficiently informed on the matters at hand as any other individuals present. They may have been wrong, we agreed, but to prove they weren't we began the task ahead with a vengeance. Evangeline Jordan had written, "it isn't the task of organizing a society that one need fear, but trying to keep it alive". This society, we decided, wasn't going to die on our hands except over the bodies of two deceased members. We assigned one night a week—Tuesday I recall—for the entire year for collaboration, setting up the mechanics of the society, and eventually for planning a program and agenda for the first annual meeting. We had many differences of opinion in setting up a pattern and precedent for this group, but fortunately we worked quite harmoniously together and could always find a common ground on which to agree. We were not at all like the elderly couple who were standing by the window in their living room one winter day, watching intently and in admiration, as a team of horses pulled diligently together to get a heavy sleighload of hay up over the crest of the hill. The wife finally broke the silence with the critical remark, "Hiram, why can't we pull together that way?". Said he, in a brief and complete explanation, "Martha, we could if, like that team of horses, we had only one tongue between us!!"

Fortunately for the society Sam remained on as secretary for four years and when he left the secretaryship to become president the organization was on its way to what one might term an auspicious beginning. The fine guidance of those who have followed him have brought it to this date—the SILVER ANNIVERSARY.

Perhaps you might like to recall the names of those who have wielded the gavel in the first 25 years. They are:

PRESIDENTS—THE FIRST 25 YEARS

1	1927	Walter C. McBride
2	1928	F. Blaine Rhobotham
3	1929	John E. Gurley
4	1930	Edward Sullivan
5	1931	Samuel D. Harris
6	1932	Thaddius P. Hyatt
7	1933	Haidee Weeks
8	1934	Charles A. Sweet
9	1935	Walter T. McFall
10	1936	E. L. Pettibone
11	1937	Floyde E. Hogeboom
12	1938	John C. Brauer
13	1939	Konrad Lux
14	1940	Frank Lamons
15	1941–45	Ralph L. Ireland
16	1946	Jack Wisan
17	1947	R. Mott Erwin Jr.
18	1948	Alfred E. Seyler
19	1949	W. James Taub
20	1950	Hugo M. Kulstad
21	1951	Earle L. Lampshire

Those are the men who, as committeemen, as councilmen, as secretary, as editor, and finally as president, have more or less guided the destinies of the organization.

Now perhaps in a similar fashion you may go along with me to review some

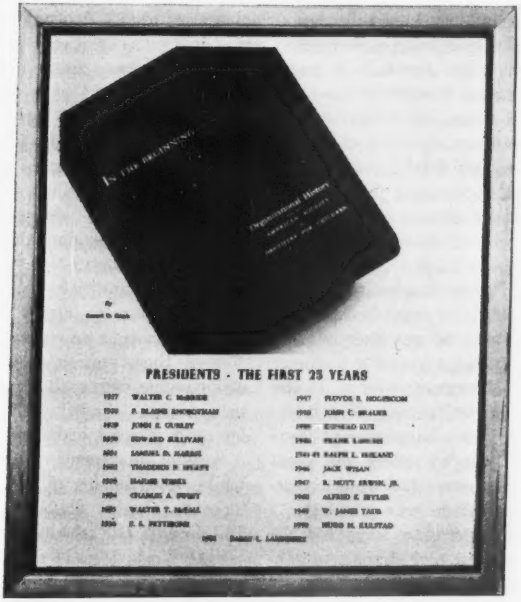


FIG. 1

of the organization's activities and accomplishments.

1. First of all, it boasts a membership of over 3000.

2. It boasts a dental Journal whose presentation, both in appearance and in content, is equivalent to the best in Journalism. Having been active in the editorial field for a number of years, and as such receiving and reviewing most of the current monthly dental periodicals, I feel quite proud and pleased with ours. For this fine Journal our thanks must go first to Sam, the original editor, and to the present editor, Al Seyler. Sam initiated it and took it through the original years when material and means were meager but since the organization has become affluent Al has caused it to blossom out with color and distinction and with an abundance of well selected data between its covers.

3. Our organization has had, by virtue of its regular representation on the White House Conferences, a voice in shaping legislation having to do with the health of the Nation's children.

4. It has consistently encouraged more and better dentistry for children. The original constitution stated that one of the purposes of the organization was the

dissemination of information regarding Children's Dentistry. It promoted the creation of study clubs for men in family practices who were doing, either by inclination or demand, a lot of children's work and who were aimlessly seeking written and clinical data on the subject. It was felt, as was common opinion in our own little group, that open discussion and study in a small body of interested persons would prove fruitful. A pamphlet on "Fractured Anteriors" was compiled by the Michigan Unit shortly after this organization came in to existence. It was the first published data of any account, on this provoking problem and was a consensus of opinion or procedures of men and women interested in children's work at that time.

State units were encouraged as a means of uniting the local bodies, and to serve as a force to get everyone together at least once a year for a dinner and a program of common interest. In the original issues of the Journal great interest was shown in the barometer of State Units for it displayed where the great centers of interest were and how consistently the organization was growing.

5. It was a prompting force for the inclusion of lectures and clinic presentations on state and national programs. It is interesting to note that in 1928, the first year of our existence, Dr. Talley Ballou, then director of Dental Health for the State of Virginia, and chairman of the Mouth Hygiene Section of the ADA, wrote asking if we would compile the program for the section. Said he in his invitation, "Children's Dentistry is the closest approach to mouth hygiene I know and as such I would like to have the Mouth Hygiene Section have a full program devoted to this subject."

It was stimulating to respond to this request and though the attendance at the sessions was fair, it was obvious the interest was not overwhelming. The general interest was not in such prosaic matters as dentistry for children but rather, to quote the vernacular, in the "blood and vulcanite" presentations. Oral surgery was spectacular, prosthetic dentistry was compensatory, and so these sessions were always crowded. A speaking assignment in Children's Dentistry at one of the early sessions was not a very encouraging engagement. One never knew whether there would be two stray individuals present or a handful—and most were perfectly willing to settle for a handful! Fortunately things have changed considerably through the years and the attendance at sessions devoted to children's work has vastly improved. A pedodontist's paradise however, from a lecturer's viewpoint, is still an assignment in which there is no current competition. Though the situation has improved and is improving with each new batch of dental graduates there is still a great need for more interest in behalf of children.

Sandy MacGregor, Director of the Children's Division of the University of Toronto Dental School was given the Dominion Governmental Assignment during World War II of promoting more dentistry for the young people of Canada. He travelled through the Provinces from coast to coast doing his best to get the family dentist to do more work for children so that eventually when the young men became draftees, and the young ladies applied for membership in the Women's Service organizations they would be physically eligible. But he gave up in disgust. Said he, in substance, and with due consideration for the fact that there are too few dentists, "Our dentists throughout the Provinces have deteriorated into just craftsmen. All they wish to do, it appears, is to pull

teeth and make plates—no root canal therapy, no paradontics, little or no operative work for the adult and none but emergency extractions for the child. No wonder," says he, "the medical fraternity cocks a wary eye at us at times."

As a result of this apparent lethargy on the part of his Canadian confreres, and on the part of dentists everywhere, he has recommended to the powers-that-be in Canada that schools be established to train and license laboratory technicians for the purpose of taking impressions and making dentures. At the recent International Dental Congress in London the same thought was included in his address. The idea is not making him popular, he agrees, yet Sandy has the courage of his convictions once he has established a principle. His thinking is that if dentures may be legally made by laboratory technicians, at a presumably much reduced fee, then prosthesis and craftsmanship will be taken out of dentistry. Then, dentists will be true members of the healing arts, and then, too, by virtue of the loss of income and the need for some supplanting medium they will be amenable to the idea of preventive dentistry and the care of children.

6. Our organization has promoted the inclusion of lectures and clinical work in the curriculi of dental schools, and finally, as a wedge in that behalf, the inclusion of written examinations and operative assignments in State Board examinations. When this Society was organized the Rochester Dental Dispensary and the Forsyth Infirmary were doing far more for children than any University Dental School—in fact about all that was being done for them. Today however, and with much due praise for the efforts of the ASDC most dental schools of the country have major departments of Children's Dentistry with established hours both in lecture and clinical work, while the remaining few have at least a semblance of organized requirements.

7. Finally it has established the American Board of Pedodontics and the American Academy of Pedodontics; the first an examining and licensing Board created to provide standing and distinction to those who may meet the required standards. To be a diplomate of the Board of Pedodontics, as in any other specialty, is an outstanding mark of achievement, and because teaching institutions are demanding more and more of those whom they seek to place in departmental supervision this acquirement is particularly helpful to those who pursue the teaching profession.

The Academy of Pedodontics was established as a study and research group, with each member obliged to make his own contribution. To date it has not accomplished all its intent and purpose yet the trend is in that direction and the current study on cavity preparation is a commendable sample of what may follow.

In these twenty-five years as well, there have been many improvements in the procedures employed, in equipment and in new materials.

The child's dental chair has been the greatest convenience of all. The picture of a four year old in the big conventional dental chair, with feet aimed directly forward, with arms outstretched to reach the chair arms and with head forced downward and forward so that vision is obscured is sufficiently discomforting in aspect to have discouraged the early worker.

The improvement in root canal therapy bears mentioning. Today's pulpotomy in the primary tooth is a

far cry from the original instrumentation and root canal filling, while the same treatment in a fractured permanent anterior is of equal comparative importance. Root resections too, have come to stay, to replace the former practice of extraction and restoration.

The new x-ray holders—simple and inexpensive devices—have put an end to the former x-ray burns and eventual lost appendages. These gadgets may not appear so valuable in adult work, but if one works with children—and if one aims at taking x-rays which he could show unabashedly to a neighbor, then they prove superb. The small film also has been a great boon, while at present there is in prospect an intermediate film—between the small and the standard—for use in the period of the mixed dentition.

The availability and use of novocain, has simplified operative procedures. Likewise the water spray has made cavity preparation less painful to both operator and child. The water spray is a great pain reducer, and once familiar with it the child regularly seeks its use. Further, it is a great timesaver, for the intermittent flushing and drying of the cavity is eliminated. With its use the cavity is always clean and the visibility excellent.

The advent of the Humphrey stainless steel crown for badly broken down teeth has been a substantial aid in the preservation of primary molars, as has the introduction of the plastics for the restoration of the anterior teeth—particularly those with fractures.

Finally, the application of sodium fluoride to the teeth of children and its counterpart, the introduction of fluoride to the community drinking water has made dental history in this era. The organization of this society, the accumulation of its many splendid accomplishments and the advent of the mentioned therapies and products have all occurred in this first twenty-five years. This I saw. This I believe in. And as a culminating touch to this fine commemorating program tonight Dr. Harris is being given an honorary membership for the very important role he played in its behalf.

Three years ago I was appointed chairman of a committee to ascertain what honor we might bestow upon him. One of the committee remarked at the time, "What's the great hurry? Let's wait until the 25th anniversary, he's still young!" It was obvious the committeeman didn't know the whole story. Sam's nine year old son was sitting in his mother's boudoir one day this past year watching intently as she went through the business of applying her make-up. The casual interchange of conversation had ceased for a time when suddenly he remarked, "You know, Mother, you've aged a lot the last few weeks". In her surprise, and to conceal her amazement, she put on an expression of pain but said nothing. Realizing his apparent offense and endeavoring to soften the situation, he hastened to say, "Gee Mom, I didn't mean to hurt your feelings. Anyway you aren't the only one, Daddy, I notice, has aged a lot too".

I note, only in passing if you please, that some of us members present, of the original few, are beginning to show evidence of the same affliction. And as Sam looks out at you he's likely thinking in terms of the much-quoted pronouncement of a famous artist's wife. The story goes that a famous bachelor artist suddenly took to himself a charming and beautiful young bride. Unfortunately she knew little or nothing about paintings or the great artists who, through the centur-

ies, had preceded her husband. Wishing to show her off to his former pals, in grand style, he prevailed upon her, shortly after the honeymoon, to give a dinner for them. She was reticent at first, lest the conversation be entirely art and she would be forced to reveal her ignorance of the subject. But she yielded upon the suggestion that both would strive to direct the conversation into other channels. Things went along superbly during dinner and until the guests moved out onto the terrace for a breathing spell before bridge. There, one of the guests singled her out and in lavish manner complimented her highly by saying, "Mrs. Smith, you look like an old Rembrandt tonight", to which she quickly replied, "You don't look so good yourself, old boy!"

Finally, who knows but tonight we may be at the portals of another great era in Children's Dentistry. I sincerely hope so. Peons can at least dream. But regardless of where we may be going or where we set our goal for the Golden Anniversary, 25 years hence, I shall always be pleased with what has occurred thus far. And at this memorable time, I wish it said in all sincerity, that going along with you these first 25 years, sharing some of the responsibilities and all of the joys, has been a most fruitful and pleasant experience.

The fine pictures of our 1952 meeting are the work of Miss Virginia Rives, Washington University School of Dentistry, 4559 Scott Avenue, St. Louis 10, Missouri, from whom reprints may be obtained for one dollar per picture, plus $.25 postage and packing.

A. E. S.

St. Louis, Missouri, 1952

Registering in at the Melbourne Hotel-Headquarters 1952 meeting.

Earl Bean, President of Missouri Unit, welcoming Bert Gilbert of Madison, Wisconsin. Jack Gilster of St. Louis is the fellow in the check coat, and the good looking gal is a St. Louis Convention Bureau representative. (*Nope, her phone number and name are not available!*)

The Banquet in honor of Doctor Samuel Harris.

Frank Lamons presenting Honorary Life Membership Certificate to Mother Hill.

Earl Lampshire presenting Honary Life Membership Certificate to Founder Sam Harris.

Walter McBride orating at the Banquet. His better half Hilda and the Lampshires beside him.

Scene at the Silver Anniversary Banquet. Mrs. Frye, Ruth Martin, John Beuhler, ? . ? Ed Peaslee, Mike Cohen, Naomi Dunn.

Dr. and Mrs. Herb Jackson at Leo Lundergan's clinic.

Harold Maxmen of Detroit, holding forth at our Clinic Session.

Manny Album's clinic on Cerebral Palsy.

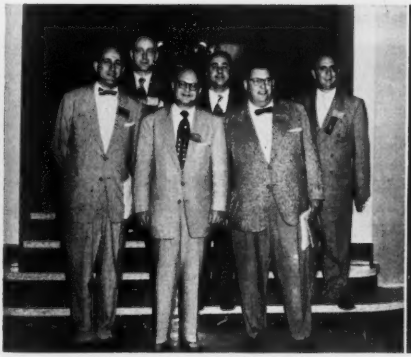
Elizabeth Beatty and Ruth Martin at Elizabeth's clinic on spacers.

Art Moley and Dave Webber, at their table clinic on Prosthetics for Children.

Earl Lampshire, Walter McBride, Ruth Martin, Al Seyler. (My, what beautiful teeth you have, Earl!)

Bert Gilbert, Joe Cohen, Chuck Mehlum, Bill Humphrey, Paul Barker.

Scene at the Table Clinic Session.



Front row: Manny Album, Sid Kohn, Ben Rabinowitch & Corp.
Back row: Hugh Keenan, Mike Cohen, Walt Matthews.

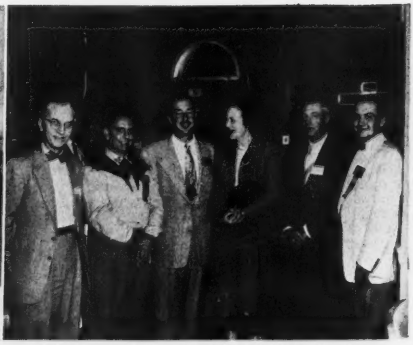
A group of fun loving fellows around Al Anderson and his Texas hat!

Larsen Teutsch, Al Seyler, Willard Hunnicutt.

B. L. Gainsforth, Evelyn Strange, Harold Maxmen, L. B. Higley.

Front row: George Teuscher, Helmut Zander, Ralph Ireland, Harold Addelston
Back row: Sid Kronfeld, Harold Klein, Sam Harris, Sumner Russman

Earl Lampshire, Skeeter Jennings, George Teuscher, Sam Harris, Larry Burdge, Hugh Keenan, Henry Wilbur.



A happy sextet at the Table Clinic Session.

Dental Caries Experience in Philadelphia School Children

ABRAM COHEN, D.D.S.,* F.A.P.H.A. AND MAURY MASSLER, D.D.S., M.S.†

Editor's note:

Abram Cohen, who prepared the following article in cooperation with Maury Massler, is an Associate in Oral Medicine, School of Dentistry, University of Pennsylvania, where he conducts a postgraduate course in public health dentistry for dentists and hygienists. He is in charge of one of the best school dental programs in existence and is interested in good dentistry for children. Despite the obligations of a private practice, he has produced an excellent motion picture in sound and color on a school dental health program, which has been shown throughout the United States, Canada, Europe and Australia.

A.E.S.

INTRODUCTION

THE oral condition of the approximately 212,816 grade school and high school children in the City of Philadelphia is regularly examined every two years by authority of the School Health Act No. 425 which requires a complete dental examination of each pupil in grades 1, 3, 5, 7, 9 and 11. The program is supervised by the Dental Service of the Medical Division of the Board of Public Education. The objective of the Dental Service is diagnostic and educational. A full-time dental hygienist and two part-time dentists (one working during the morning and one during the afternoon) constitute a single dental unit. There are twenty such units in operation in the program and each school is visited, in rotation, once each year.

The activities of the Education Department and the Nursing Services are integrated in this program to improve the dental health of the Philadelphia school children. Prior to the initiation of the dental program in a given school the hygienist visits the principal and outlines the educational program that will be set up for the entire school. The entire school population is exposed to the educational program, although the dental examinations and prophylaxes are given only to the pupils in the odd grades. The Education Department utilizes the hygiene period for dental health teaching during the time that the dental examinations are being carried out. Dental assemblies are held in which the hygienist and the dentists participate.

Careful instruction in brushing technique is given to each child by both the dentist and the dental hygienist. The general procedure is as follows: (a) classroom demonstration by the dental hygienist and the dentist and (c) demonstration of toothbrushing by the pupil to the dentist.

After the pupil has been examined by the dentist, a card is sent to the parents informing them of the condition of the teeth of the child. The dental record of the pupil is kept with the medical record and remains in the school until the pupil

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leaves or has graduated. The tabulated results of the examinations are sent to the Dental Division of the Department of Health of the State of Pennsylvania.

The follow-up for corrections is handled by the Nursing Service. If the child cannot afford the services of a private dentist, he is sent to a voluntary agency (partially subsidized by the Community Chest) where the corrective work is done on a low cost per visit basis. If the pupil is unable to pay anything, he is sent to a dental clinic of the Department of Health of the City of Philadelphia. The Nursing Service sees that the dental work is completed. Upon completion of dental service, the dentist is requested to sign the back of the card, which is returned to the school where the nurse records the information on the health record of the pupil.

The purpose of this report is to present the data collected on dental caries experience in approximately 180,000 of the 212,816 Philadelphia school children.* These data represent the average of three figures obtained during each of three examination periods from September 1946 to July 1949. Approximately 90,000

TABLE 1

Dental caries experience in Philadelphia school children

(White and Negro, Males and Females Combined)

AGE LAST BIRTHDAY (IN YEARS)	APPROX. NUMBER EXAMINED	AVERAGE NUMBER TEETH AFFECTED*								
		Primary Teeth				Permanent Teeth				Primary and P ermanent Teeth
		d	e	f	def†	D	M	F	DMF†	
6	28,000	2.1	.30	.46	2.8	.32	.01	.04	.37	3.17
7	8,000	2.5	.44	.44	3.5	.59	.11	.11	.83	4.23
8	20,000	1.9	.50	.78	3.2	1.2	.08	.46	1.8	5.0
9	10,000	1.8	.64	.62	3.1	1.4	.19	.58	2.2	5.3
10	20,000	1.0	.34	.55	1.9	1.5	.25	1.1	2.9	4.8
11	10,000	0.6	.29	.26	1.1	1.8	.42	1.1	3.4	4.5
12	18,000	0.2	.14	.13	0.5	2.44	.60	2.0	5.1	5.6
13	12,000	0.07	.09	.04	0.2	2.8	.76	2.2	5.8	6.0
14	19,000					3.4	1.08	3.4	8.1	8.1
15	12,000					3.3	1.24	3.4	8.2	8.2
16	16,000					2.8	1.21	5.5	9.6	9.6
17	7,000					3.13	1.40	5.2	10.0	10.0
	180,000									

* Figures represent averages of three yearly examinations made on children in grades 1, 3, 5, 7, 9 and 11 during school years 1946–47, 1947–48 and 1948–49, using mouth mirror and explorer in excellent light (no radiographs).

† Computed separately; not the sum of individual columns.

d and D—teeth with active decay.

e and M—extracted and missing because of caries; e is a questionable category (see Gruebbel, J. Dent. Res. **23**: 163, June 1944).

f and F—teeth with fillings.

* Because of the time consumed in the educational program and in giving the prophylaxes, it was impossible to reach all the pupils in the odd grades each year. Plans are under way to expand the dental services for complete coverage.

children in grades 1, 3, 5, 7, 9 and 11 were examined each year so that a total of approximately 270,000 individual records obtained from 180,000 different children over a three-year period form the basis for this study. One group of 90,000 children was examined twice (in 1946–47 and again in 1948–49). The children were of widely varied racial and ethnic stock. The dental record did not include this notation. However, the census showed that approximately 143,743 of the children were white and 65,460 were negro. The remainder was not identified. The age range was from 6 to 17 years.

The examinations were made with mouth mirror and explorer in good light. Roentgenograms were not available. Only sixty-five per cent of the children received prophylaxes at the time of the biennial examination, since a prophylaxis could not be given unless a signed slip for permission to do so was received from the parent by the Board of Public Education. In any case, the oral examination was made with considerable care. The time spent with each child was never less than 12 minutes and often exceeded 20 minutes. The dental hygienist acted as recorder during this procedure.

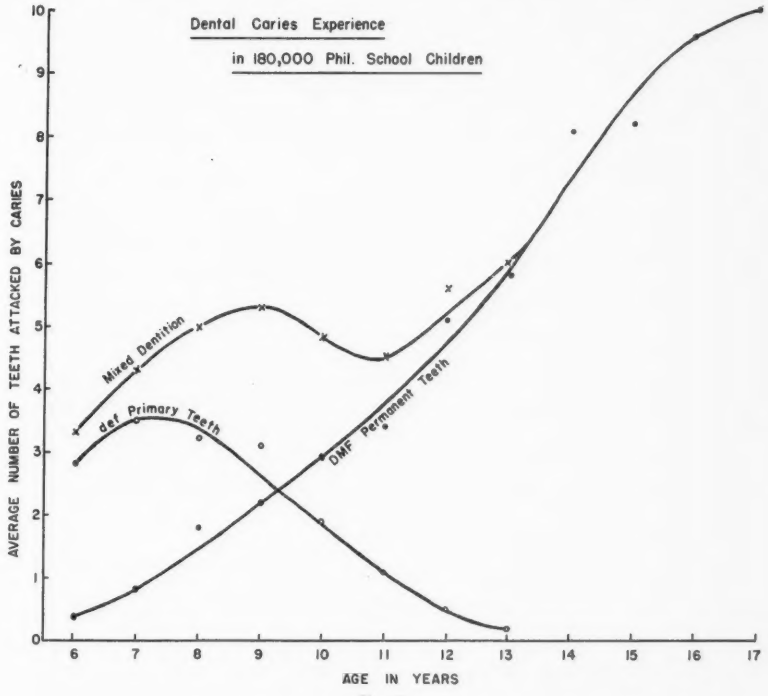

FIG. 1

Findings

Table 1 and figure 1 show the average dental caries experience in Philadelphia school children from 6 to 17 years of age. The DMF and def rates for primary and permanent teeth are typical of those previously reported. In figure 2, a comparison

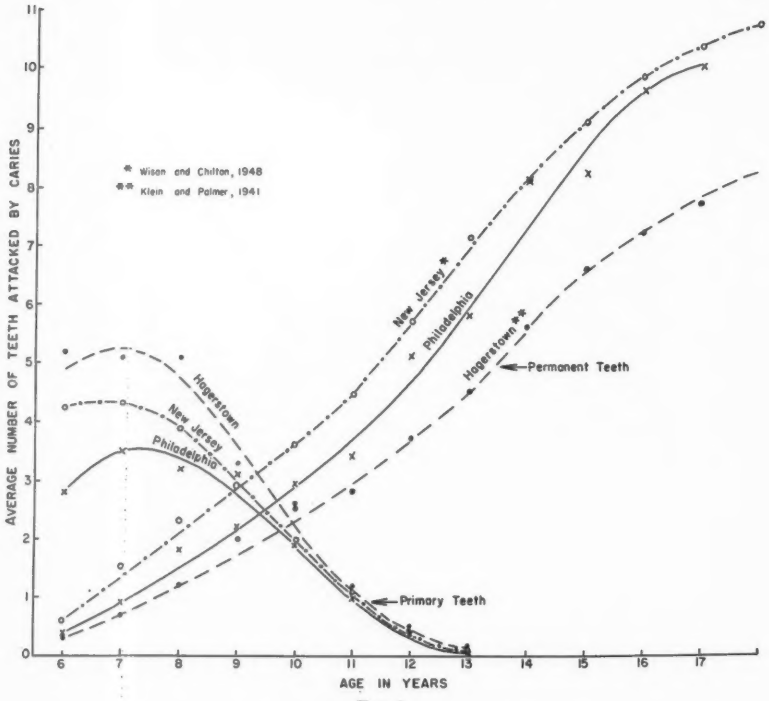

Fig. 2

is made with the DMF rates of 6,200 children living in Hagerstown, Maryland (Klein and Palmer, 1941), and in 61,612 children living in New Jersey (Wisan and Chilton, 1948). These two studies were selected since they present reliable data based on large numbers of observations.

The parallelism in the curves showing caries attack rates (i.e., the average number of teeth attacked per year) in the three studies is striking. However, the differences in the absolute numbers of carious teeth is also noteworthy. The caries attack rate in the permanent teeth of the Philadelphia children lies midway between the higher caries experience of the New Jersey children and the lower caries experience of the Hagerstown children. However, the caries experience in the primary teeth is lowest in the Philadelphia children and highest in the Hagerstown children. This indicates that

a relatively high incidence of caries in the primary dentition is not necessarily followed by a high incidence in the permanent dentition. The reason for this relative difference in caries susceptibility between the primary and permanent teeth is not known. It would be interesting and important to determine, by means of longitudinal studies, whether or not a high (or low) caries experience in the primary dentition is followed by a high (or low) caries experience in the permanent dentition. The correlation has not, to our knowledge, been reported.

Discussion

The degree of correlation between caries experience in the primary teeth and the permanent teeth is of obvious importance to the clinician since the prediction of dental caries experience is based on this assumption. The correlation has always been assumed to be high. In the light of the comparisons made in this paper, some doubts may be raised as to the degree of correlation. Data are being collected from longitudinal studies to determine the degree of correlation between the caries experience of the primary and permanent dentitions.

Both Klein and Palmer (1941) and Wisan and Chilton (1948) smoothed their data by straight regression lines in their graphs indicating the relationship between the number of DMF teeth per child and age. However, a review of the original data in these studies shows definite and significant inflections as shown in figure 2. It seems clear that the caries attack does not follow a straight line, but is sigmoidal in character. This fact has also been reported by Svore and Williamson, 1951.

Summary and Conclusions

Data on the caries experience in approximately 180,000 Philadelphia children ages 6 to 17 years is presented. Reliable epidemiologic data on caries attack rates in different parts of the United States is surprisingly scarce and warrants presentation.

The data is compared with extensive data obtained by Klein and Palmer (1941) in Hagerstown, Maryland, and by Wisan and Chilton (1948) in New Jersey. The amount of caries experience by the "average" child at different age periods differs significantly in these three studies. However, the trend lines showing the relationship between the amount of caries and age are strikingly parallel (figure 2). This suggests that while the susceptibility to caries (i.e., the caries attack rate) may differ in different groups, the pattern of attack tends to be similar.

It was also found that a *relatively* high average dental caries experience in the primary dentition was not necessarily followed by a *relatively* high average dental caries in the permanent dentition. This suggests that the correlation between dental caries experience in the two dentitions should be determined by individual longitudinal studies because of the importance of this relationship to clinical prognosis.

Acknowledgements

We wish to thank Mrs. L. Goldman, Coordinator of Dental Hygienists and the 20 dental hygienists and 40 dentists who cooperated in this study.

Klein, Henry and C. E. Palmer: On the Epidemiology of Dental Caries, in *Dental Caries*. Univ. of Penn. Bicentennial Conference, 1941. Univ. of Penn. Press, Phil., Pa.

Svore, J. H. and A. E. Williamson: Mathematics of Tooth Decay. Am. J. Pub. Health **41**: 1047, Sept. 1951.

Wisan, J. M. and Chilton, N. W.: Dental Caries Experience in New Jersey School Children. J.A.D.A. **37**: 519, November, 1948.

Unit News

Michigan

Dr. Hugh Kopel deserves all the credit for making our first meeting a very successful one. As chairman of the program committee he arranged to have Dr. Phil Jay appear before the members of M.S.D.C. and their guests in Flint, Michigan. Flint is voting on a referendum to add sodium fluoride to their water system this November.

Representatives of the press were present and well impressed with Phil's facts and figures. If the city of Flint does not add fluorine to their water system it will not be the fault of Dr. Jay or the M.S.D.C.

It is felt by the members that our unit has done a fine public service.

Wisconsin

Members of the Michigan Unit will be proud to hear that their own Joe Hartsook was the main attraction at the Wisconsin meeting held September 26, 1952. Joe's clinic was entitled "Pulp Management Problems and Practices in the Treatment of the Young Dentition."

In the afternoon with Dr. Hartsook as a panelist and Dr. Bert Gilbert as the moderator a very interesting discussion on problems that arise in the practice of Dentistry for children developed. Other members on the panel were:

L. K. Reese, M.D.—*Child Psychiatrist*
S. D. Kelley, D.D.S.—*Exodontist*
W. R. Plater, D.D.S., M.S.—*Orthodontist*
H. K. Temy, Jr., M.D.—*Pediatrician*

The membership of the Wisconsin unit thought it fitting and proper to have the following men fill the offices of their organization for the coming year.

Thomas Lane—*President*
L. Riley McCormick—*President Elect*
C. M. Hermann—*Vice President*
R. J. Schneider—*Secretary-Treasurer*

Southern California

Correspondent John O. Whitaker relates that the first meeting of S.C. which was held on September 22 was well attended with over 100 members and guests being present.

Everyone in attendance was able to take home some very useful facts about growth of the face and mandible from the interesting and witty lecture presented by Dr. Wendell R. Wylie from the University of California.

If it is possible to show a trend with just one meeting, President Stewart Anderson and his staff can look forward to a very successful year.

New Jersey

Atlantic City was the geographical spot for the April meeting and on hand with a wealth of knowledge was Arnold Gesell, M.D. For those of you not acquainted with Dr. Gesell, he is the founder and director of the Clinic of Child Development at the School of Medicine, Yale. His lecture was excellent and well received.

At the same meeting the following members were elected to serve as officers for the coming season.

C. Kermit Botkin, Morristown—*President*
John K. Heindel, East Orange—*Pres. Elect*

Rodger E. Poole, Upper Montclair—*Vice Pres.*

Albert W. Theurer, Roselle—*Sec'y. Treas.*

Northern California

Your editor's most faithful correspondent Edward S. Mack sends the following report of the activity in Northern California.

The Second Annual Pedodontic Seminar was held in Santa Cruz, August 8–10. Attendance was excellent and Southern California was represented also.

Gordon H. Rovelstad, Assistant Professor of Pedodontics at Northwestern University was the featured speaker and his material included Diagnosis and Treatment Planning, Caries Preventing Procedures, and Evaluation and Treatment of Acute Infections.

Also on the same seminar were John Tocchini, D.D.S.; Howard Bierman, M.D.; Chester Fong, D.D.S. and Ed Randol, D.D.S. Each did a splendid job and each deserves much credit for the success of the meeting.

New York

During the last quarter of 1952, the New York Unit presented the following programs.

I. Forum on Dentistry for Children

1. Dr. Harold Berk, Assistant Professor in Pedodontics, at the Tufts College of Dental School, talked on pulp capping and pulpotomy. It was discussed by Dr. Joseph Obst, Director of Dentistry at the Jewish Sanitorium and Hospital.
2. Table Clinics on Pulpotomy by Dr. Gerhard Schmeltz of the Murray & Leonie Guggenheim Dental Clinic and Dr. Melvin Bellet, Instructor at the College of Dentistry of New York University.
3. A group discussion, "The Economics of Dentistry for Children," moderated by Dr. James Jay and discussed by Dr. Lewis Blass.

II. Topic—Factors in Occlusion

Speaker: Dr. M. Michael Cohen, Instructor in Oral Pediatrics, Tufts College Medical School, Department of Pediatrics. Instructor in Oral Pediatrics Tufts College Dental School

Discussor: Dr. Adolph Jutkowitz, Associate Profesor in Orthodontia, N. Y. U. College of Dentistry

Discussion: "Anesthesia in Dentistry for Children"

Speaker: Dr. Stanley Spiro, Dental Staff at Triboro Hillside Hospital, Anesthesia Staff Queens General & Jewish Sanitarium and Hospital for Chronic Diseases

Moderator: Dr. Isadore Samuels, Instructor in Pedodontics, N. Y. U. College of Dentistry

Table Clinics: Preventive Orthodontics, Dr. Edward E. Teltsch, Clinical Assistant in Orthodontia, Columbia University School of Dental and Oral Surgery

Space Maintenance: Dr. Joseph Keller, Instructor in Pedodontics, N. Y. U. College of Dentistry

If news of your Unit does not appear in the Journal, call it to the attention of your officers.

Correspondence should be sent to Mel Noonan, 141 S. Bates Avenue, Birmingham, Michigan.

The Pediatric Approach to Oral Habits in Children

I. Newton Kugelmass, M.D., Ph.D., Sc.D.

MOUTH activities are considered "bad" habits. Most common is sucking of the thumb, fingers, tongue, lips, toes, nipple, blanket, toy or clothing. Tongue chewing between the molars does not occur until the second year of life. Teeth grinding is usually observed during sleep. Nail biting is common in the sensitive child subjected to tension, excitement or worry. Breath-holding occurs in high-strung infants who cannot restrain their emotions. The mouth is the first center of action and reaction in the life of the infant because it works in conjunction with all the senses. The baby "mouths" everything to get acquainted with his surroundings. That is why he develops undesirable mouth habits.

In infancy thumbsucking is normal. Sucking is the first mechanism available for feeding. The newborn sucks his thumb or finger soon after birth. It is an accidental encounter that gives pleasure for the oral zone, supersensitive to touch. Repetition of this hand-to-mouth exploration leads to a habit and the habit is retained for comfort and gratification. Sucking is as an essential form of satisfaction for the emotional system as feeding is for the physical organism. At one month a baby needs 30 to 40 minutes of sucking satisfaction during a feeding; at four months, 20 to 30 minutes of sucking satisfaction during a feeding and at eight months, 10 to 20 minutes. There is a sucking requirement characteristic of each infant and only the infant knows how much sucking he requires! There is such marked difference between babies with respect to this requirement that no one can determine how long it should persist. In primitive society babies are offered cloth dipped in sugar or bread dipped in milk for the sake of satisfying this urge. To be sure, there are more sanitary methods for fulfilling this emotional need in modern society, but to deprecate it is fallacious.

Most of the sucking urge is fulfilled by nursing and since breast feeding is harder work than bottle feeding, the sucking satisfaction is fulfilled more adequately. In modern society with less breast feeding, more bottle feeding and few nursings, the sucking urge is expressed in extra thumb or finger sucking. It accompanies hunger, teething, fatigue, discomfort, pain, loneliness, tenseness and somnolence. It is a means of relieving tension and often precedes the transition of the day's activity unto sleep.

Thumbsucking is as normal a reflex as breathing. No one has the right to deprive the baby of this, one of the few pleasures of an infant. It is as satisfying to an infant as gum chewing, munching and smoking is to an adult. Anyone interfering with an adult's smoking is frowned upon. Why interfere with this harmless infant's pleasure? After all, the needs of an infant are the same as those of an adult except that the mode of expression is different. If thumbsucking becomes excessive in an infant, a clean pacifier is the lesser of two evils. No deformity of the palate develops in infants who

have formed the habit of thumbsucking. Neither is there any air-swallowing, mouth infection or intestinal disturbance.

What is to be done about thumbsucking in infancy? Let the baby nurse longer at the breast or bottle. Offer him a pacifier if necessary. Keep him interested in his surroundings else he will get bored and suck his thumb. Keep his little hands busy. Make no issue of the problem by restraints, mits, thumbguards, elbow splints or bitters.

In the preschool child thumbsucking means maladjustment. The sucking tendency gradually diminishes in intensity by the end of the second year. Then the desire to use the hands for exploring intriguing things gradually increases. If the sucking persists beyond the age of two, it usually remains manifest unto the age of six. During this period it occurs when the child feels unloved, unwanted, embarrassed, guilty, resentful or in need of consolation. Its purpose is no longer to satisfy sucking needs but to provide some source of comfort. Since thumbsucking is a useless activity, considerable amount of time is diverted unto self-deprecation and idle fantasy. The child thus losses valuable time and worthy energy needed in the development of interest and activity in the world about him. The resultant effect is to retard his developmental progress because of the sequential nature of development. Each new activity is based on a previous activity. If the child is halted at a particular stage, self-absorbed in thumbsucking, he cannot develop at a normal rate.

The preschool period forewarns of the possible danger of thumbsucking. It does not necessarily mean that thumbsucking is a pernicious habit. It if occurs only when the child is hungry, tired or sleepy, it had better be disregarded, and the child will gradually emerge from this casual practice. But if the child sucks almost constantly, he needs help in finding more constructive satisfaction. It may be that thumbsucking is only one of a number of problems of the frustrated child. If a careful study indicates that the child is well-adjusted, the parent should be asked to tolerate or ignore the habit completely until the fifth year.

Thumbsucking during the preschool period is merely an indication of something wrong in the life of the child. That's his way of letting you know that things aren't going too well with him. There's something wrong but he can do nothing about it so he sulks and sucks. To force him to abandon thumbsucking does not alleviate his personal problem. On the contrary, such an approach increases his tension. It's not a neurotic habit but an indication of some underlying maladjustment which makes the child withdraw into fantasy whenever he is confronted with a problem he cannot solve satisfactorily. Thumbsucking is a symptom indicative of some maladjustment in the child or his parent. Treat the child—not the symptom. Determine the cause. Observe the conditions that induce sucking, then try to correct them little by little to improve the growing personality.

In childhood thumbsucking is abnormal. About 8 per cent present with thumbsucking as a persistent habit. During this period thumbsucking is definitely abnormal. It is an infant procedure out of tune with the older child. The practice produces dental and developmental disturbances. Dental alignment is the result of heredity. No pressure exerted by thumbsucking during the earlier years can displace the teeth permanently. But, thumbsucking after the sixth year produces irregularities in the permanent teeth. Personality difficulties are the usual accompaniments.

The school child becomes self-conscious about the habit because it sets him apart from the other children and makes him a subject for teasing. Ordinarily he has sufficient motive to stop unless there is some deep-seated maladjustment.

The chronic thumbsucker shows signs of immaturity for his developmental age. He secludes himself to suck his thumb and thus develops undesirable sensitivity. He develops nervous movements with his free hand. While sucking his thumb, he pulls his ear, makes gyratory movements and facial grimaces. On the other hand, he may develop negativism when nagged or punished for the habit. He develops a feeling of insecurity from teasing and shaming.

You must realize that the thumb is sucked when your child is tired, bored or unhappy. Give him periods of rest and periods of play between feedings. Evaluate child-parent relationships from the standpoint of over-protection or rejection; of over-criticism or inattention; of over-affection or indifference. The school child is old enough to understand the need for correcting the habit. Let the discussions be casual at opportune moments. Some goal in the life of the child may be used as a reward. You can wean him from this persistent habit if you substitute equally pleasant satisfactions. Arrange an individualized program for adjusting his personality to his home, school and community.

NOTICE

Some time ago one of our contributors took exception to a report published in our Journal which stated that calcium hydroxide, as used in the vital pulpotomy procedure, did not permit growth of microorganisms usually present in an exposed vital pulp.

We asked Doctor Earl B. Gerheim and George R. Logwood, Technician, of the Univ. of Detroit School of Dentistry, to offer their opinion on the subject. It is presented herewith:

The following list of a few representative pathogens will help to show that very few, if any, of the known disease-producing microorganisms, occasionally found in the oral cavity, will grow at the pH of a saturated calcium hydroxide solution—pH 12:

Microorganism	Limits of pH
Bacillus typhosus	5.0–8.6
Corynebacterium diphtheriae	7.8–8.0
Diplococcus magnus	5.5–8.5
Diplococcus pneumoniae	7.0–8.3
Dialister pneumosintes	No growth above pH 8.0
Fusobacterium nucleatum	6.8–8.2
Neisseria gonorrhoeae	6.0–8.0
Sarcina ventriculi	0.9–9.8
Streptococci:	
Enterococcus group	No growth above 9.6
Lactic group	No growth above 9.6
Pyogenic group	No growth above 9.6
Viridans group	No growth above 9.6
Veillonella parvula	6.5–8.0

References: Breed, R. S., Murray, E. G. D., Hitchens, A. P.: Bergey's Manual of Determinative Bacteriology, VI, Williams & Wilkins, Baltimore, 1948

Burrows, William: Textbook of Bacteriology, W. B. Saunders Co., Philadelphia, 1949

Topley, W. W. C. and Wilson, G. S.: The Principles of Bacteriology and Immunity, William Wood & Co., Baltimore, 1946

M. EVANGELINE JORDON, D.D.S.

1865–1952

A long and distinguished career in dentistry was ended as Evangeline Jordan slept quietly away on October 10th, 1952 in Los Angeles at the age of 87. Mankind and all the dental world owe this great lady a deep debt of eternal gratitude.

Dr. M. Evangeline Jordon was born in Illinois in 1865. Shortly after her birth her family moved to Rochester, Minnesota where Dr. Jordon spent her childhood years. About 1885 her family moved to California and settled in San Bernardino County.

Dr. Jordon taught elementary school in the City of San Bernardino for one year about 1887. She then attended the University of California at Berkeley to study dentistry, receiving her degree about 1893. Upon graduation she began the general practice of dentistry in Los Angeles and after a few years of general practice she became interested in the importance of and the need for dentistry for children. She devoted the rest of her active career to the study and practice of children's dentistry stressing the preventive aspects of the problem. In this field she attained world-wide recognition as the first dentist to specialize in dentistry for children. Dr. Jordon retired from the practice of dentistry in 1929 at the age of 64 and devoted the next ten years of her life to world travel.

During her career as a children's dentist Dr. Jordon wrote the first text book on dentistry for children entitled "Operative Dentistry for Children," which has been published in three languages. She also wrote many articles on this subject for dental magazines throughout the United States and Canada and became universally recognized as a pioneer in the field of dentistry for children.

During the past ten years Dr. Jordon received significant honors from her profession. On January 26, 1948 the Southern California Unit of the American Society of Dentistry for Children awarded her an honorary membership as the first person in history to render professional dental service exclusively to children and for her magnificent contribution to human welfare. On June 1, 1949 the American Academy of Pedodontics awarded her an honorary membership. In 1949 Dr. Jordon was given a testimonial dinner by the Los Angeles County Dental Society at which she was given a plaque attesting to their appreciation for her professional activities on behalf of children.

Dr. Jordon was instrumental in organizing the American Association of Women Dentists. She promoted the first meeting which was held in Los Angeles in 1922 and was elected the first president. Likewise she assisted with the forming of the Professional Women's Club and was the first president.

She was an honorary member of the Friday Morning Club of Los Angeles.

ELSIE SCHILDWACHTER, D.D.S.

Around the Country

"The man who is so busy that he does not have time to read his professional magazines is like the man who was so busy chopping wood that he didn't have time to sharpen his axe."

* * *

Apropos of the article on Audio-Visual Aids in Pedodontics by Joel Freedman, which appeared in our 2nd Q issue, Editor Al suggests you write to our friend and advertiser, W. O. Mussey, Jr., President of Densco, Inc., Box 420, Denver, Colorado, and ask for their material on dentistry for children. You'll find some new techniques illustrated and discussed, along with some fine demonstration models for parent education.

* * *

South

The Southwestern Society of Pedodontists held their fourth annual meeting in Austin, Texas, August 29th–September 1st. The principal clinicians at the meeting were Doctors Charles Sweet and William Humphrey. Table clinics were also given by Doctors J. G. Yearwood, J. B. Raffkind, Dean Robertson and Wayne Rose. They all say, "Hats off to President George Bohuslav for arranging such a fine program". Their next meeting will be held in Denver, Colorado.

This is the first report that your editor has received from the Southwestern Society of Pedodontists and we are hoping there will be many more. My good friend and classmate Sumner A. Russman belongs to this very active Society. If Russ were on the next program to discuss economics, I would take a fast plane to Denver to hear him. He's good.

* * *

Diaper Derby

A son, born to Dr. and Mrs. John Leibold of Phoenix, Arizona.

To the Chester Lloyd's—a son born March 18, 1952. Larry Bishop is his name.

Twins—the boy Mark Robert, the girl Christine Nancy—born on Friday the 13th of June, 1952. The proud parents are Helmut and Anna Marie Zander.

A son, Jessa David, born on July 26, 1952 to Doctors Naomi Dunn and Irving Eichenbaum.

"Born on the 4th of July" to Bill and Peg Humphrey a daughter Marguerite. The Humphreys also have two sons.

A daughter, born on June 25, 1952 to Dr. and Mrs. F. J. Fleege. Christy will be well cared for with four older brothers.

* * *

West

Dr. Francis Summers of Los Angeles took over as Head of the Department of Pedodontics at the University of Southern California's beautiful new Dental School last September. Interest in Dentistry for Children has reached a new high at U. S. C. in the past three years, and under Dr. Summers' cool guidance and warm enthusiasm it will doubtless go right on up! Congratulations and good luck, Fran!

* * *

Dr. Walter Smith, Seattle, Washington answered his call to the service of his

country. I wonder how many pages it would take to list the rest of the fellows?

* * *

Dr. Chas. Mehlum and his wife Jessaline of Phoenix made a trip to Canada this past summer. They toured all the State Parks in the West on their month of vacationing. They reported that there was from 15 to 20 feet of snow around the houses at Mt. Rainier. Charles mentioned that Arizona is starting a State Unit.

* * *

Summer vacationists in Honolulu, Hawaii included Mott and Marie Erwin. Dr. Erwin appeared on the program of the local Dental Society on September 2. They report that they enjoyed every moment of their trip.

* * *

No News Is Good News, But . . .

* * *

Hobbies

Many of our group have interesting hobbies or avocations such as golf, photography, ranching, etc., but from Los Angeles comes news of a new one. Our own Dr. Floyde Eddy Hogeboom is the conductor of the Wilshire Community Orchestra. We haven't heard the 55 piece orchestra, but from all reports they give fine concerts and have an excellent leader.

* * *

Recent headlines on the sports page of an Omaha Paper told of Dr Lou Kubat's soft ball pitching record. Lou has been undefeated in the State of Nebraska for five years. This is a very fine record, Lou.

* * *

Mid-West

Dr. Lyle S. Pettit, President of the American Academy of Pedodontics, attended the St. Louis meeting. Lyle was the retiring secretary of the Academy and between writing up the minutes of the Seattle meeting and fishing, he has had little time to practice this summer.

* * *

Dr. and Mrs. Kenneth Easlick vacationed for one month in the West in their new Buick. Dr. Bernard Smith showed the Easlicks a good time at Lake Tahoe, California. It is reported that Ken washed and dried all the dishes while they were there. (Just like home, eh Ken?!)

* * *

Dr. and Mrs. Earl Lampshire are building a new home in Lincoln and hope to be moved before Christmas.

* * *

Doctors L. B. Higley, B. L. Gainsforth, and Woodrow O'Brien were essayists on the A. S. D. C. scientific program in St. Louis. It was agreed by all that they presented a very good program.

* * *

St. Louis Optimists had a very outstanding figure on their program Friday, September 5. He goes by the initials A. E. S.

* * *

Dr. O. M. Dresen, Dean of Marquette University School of Dentistry takes pleasure in announcing the following items of interest concerning the Department of Children's Dentistry:

Marquette University has instituted a program of dental health instruction to nurses at Milwaukee Children's Hospital, St. Joseph's Hospital and Veterans Administration Hospital at Wood, Wisconsin. The program has been instituted by Dr. F. J. Fleege, Acting Director of the Department of Children's Dentistry.

The American Dental Association approved dental residency at Children's

Hospital has been facilitated by the employment of a full-time hygienist, Miss Verna Pfeiffer, and a half-time dentist, Dr. H. J. Eschen, to be on the staff of the Department of Pedodontics. Full mouth restorations under general anesthesia is another innovation. Dr. Everett Wilkie, a recent graduate of the University of Iowa, has been appointed at Milwaukee Children's Hospital as the resident in children's dentistry.

Dr. Fleege was invited by Dr. L. A. Gerlach, Dental Director, to speak before three Public Health Centers on "Nutrition and General Health" in its relation to children's dentistry. The audience was composed of physicians, dentists, hygienists and nurses. He also addressed the Crippled Children Committee on "Nutrition and General Health" in helping spastics to control dental caries.

Through the efforts of Dr. E. H. Krause, Dr. Gerlach and Dr. Fleege, the Milwaukee School Board members voted to rule out the adoption of candy, ice cream and soft drink vending machines in the public schools.

Dental care for the patients at Children's Hospital has been greatly improved during the past year through the efforts of Dr. Thomas J. Zwemer and Dr. James V. Helz. Marquette University School of Dentistry has re-equipped Children's Hospital with three dental units, three cabinets and a dental chair, which considerably improve existing facilities.

Dr. T. J. Zwemer, who has been an Instructor during the past two years at Marquette University School of Dentistry, will be placed on a leave of absence for a year while he is taking graduate work in orthodontics at Northwestern University Graduate School.

The following new members have been appointed as instructors in the Pedodontic Department at Marquette University: Dr. Lee A. Counsell, Dr. J. A. Panlener, Dr. Charles Ziegler, Dr. Norbert Sabin and Dr. F. A. Druse.

* * *

New Offices

Dr. John M. O'Neil announces the opening of his office at 102 South 33rd St., Omaha, Nebraska. His practice will be limited to dentistry for children. Congratulations!

Omaha now has three newcomers who are limiting their practice to dentistry for children.

* * *

Dr. Hugo M. Kulstad has opened offices at 1807—26th Street, Bakersfield, California, and is limiting his practice to pedodontics.

* * *

Dr. Ed Hibbard formerly of Los Alamos, New Mexico has taken over Lyle Furst's practice at York, Nebraska. Dr. Furst enjoyed his new bungalow type office just one month before re-entering the armed forces. (Keep the kids off those new walls and ceilings, Ed)

* * *

A. S. D. C.'er H. William Allsup has moved his offices to the Howell House, 710 Peachtree Street, N. E., Atlanta, Georgia. Dr. Allsup limits his practice to oral surgery.

* * *

Dr. Jason R. Lewis has moved his office to the Lee Medical Building, 1805 Monument Avenue, Richmond, Virginia. Dr. Lewis limits his practice to dentistry for children.

* * *

It's a Small World

Docteur Solas, President of the Dental College of Paris, wants to rebuild the

University library which was ransacked by the Nazis. Considering the short period since the war, Docteur Solas has accumulated a wonderful selection of dental literature and is most anxious to obtain back issues of the A. S. D. C. magazine. Members of the A. S. D. C. who have back issues of the Journal are asked to send them to:

Docteur L. Solas
President du Conseil d'Administration de l'Ecole Dentaire de Paris
45 rue de la Tour d'Auvergne
Paris, France

or to

Dr. Louis B. Kelsten
299 Clinton Avenue
Newark 8, N. J.

* * *

Doctors Regina David of Cleveland and Elizabeth Beatty of Philadelphia were on the program of the International Dental Congress in London. Highlights of their two week trip included a visit to the House of Commons while it was in session and tours of several other countries. They said it was an enjoyable experience visiting with dentists of other countries.

* * *

Dr. Cecil G. Muller of Omaha presented a paper before the European Orthodontic Society in Hague, Holland. Dr. Muller also attended the Federation Dentaire International meeting in London and spent a week in Paris. He said the eight hour flight over the waters became very monotonous, but that the rest of his trip was a memorable experience.

* * *

During the table clinic session at St. Louis, your column editor had the good fortune to meet several dentists from other countries. Dr. H. H. Srabian of Beirut, Lebanon accompanied by Dr. H. D. Garabedian of Detroit told us how Dr. Srabian personally took care of 10,000 orphan children for eight years after World War I. Dr. Srabian recently attended the International Dental Congress in London as a representative of Lebanon. Some 56 countries were represented, he said.

* * *

Another interesting visit was with three gentlemen from Manila, Dr. Germanico A. Carreon, the editor of the Journal of the Philippine Dental Association and member of the Dental Board, with Dr. Manuel P. Arrenas and Gandencio Ocampo, teachers in the Philippine Dental Schools. All three doctors attended the International Dental Congress in London as official delegates of their government and also visited Paris, Madrid, and Rome, making surveys of dental education in the various countries of the world. They were in the U. S. to attend the meeting of the American Dental Association and to visit various dental schools.

* * *

American Society of Dentistry for Children's Silver Anniversary Banquet

The Silver Anniversary Banquet was a great success as far as food and speeches were concerned. Past-President Earl Lampshire did a grand job as toastmaster. Dr. Walter McBride was the main speaker of the evening. He gave a most entertaining and interesting talk entitled "The First 25 Years." Walter was the first president of the organization so he very capably told of the progress our organization has made.

In recognition of his past services (which includes founding our Society, writing the Constitution and by-laws,

being the first Secretary of the Society, and an early President of the organization) Dr. Sam Harris was awarded a plaque of life membership.

Then Dr. Frank Lamons of Atlanta, Georgia told the story of Mrs. DeLos L. Hill, who gave great sums of money to set up and furnish the Children's Dental Clinic at Emory University School of Dentistry at Atlanta, Georgia. She was awarded an honorary membership in our Society.

* * *

East

Dr. Samuel Turkenkopf of Newark, N. J. has accepted an appointment to the faculty of Oral Medicine at the University of Pennsylvania. This post combines teaching and research in Endodontia under Dr. Louis I. Grossman.

On September 26 Dr. Turkenkopf formed a panel to represent the Essex County Dental Society on radio and television. The panel discussed Dental Medicine.

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We were happy to see Dr. Edward Peaslee, Augusta, Maine at the Silver Anniversary Banquet in St. Louis. Dr. Peaslee is an A. S. D. C'er of long standing.

* * *

Dr. Sidney I. Kohn of Jersey City, N. J. presented a paper entitled "Caries Control During Orthodontic Treatment" to the Combined Sections on Orthodontics and Pedodontics at the recent A. D. A. Convention in St. Louis.

* * *

Besides being the president of the New Jersey Society of Dentistry for Children, Dr. C. Kermit Botkin of Morristown, N. J. is State chairman of the Council to Promote Fluoridation. He is also a member of the State Council on Dental Health.

Dr. Louis B. Kelsten of Newark presented a clinic on Juvenile Prosthesis at the national meeting in St. Louis.

* * *

New Jersey is proud of two of their past presidents. Dr. Lawrence R. Burdge of Red Bank was recently re-elected to the Executive Council of the A. S. D. C., and Dr. Sidney I. Kohn was elected to the American Board of Pedodontics.

* * *

Dr. Alvin Greenberg, Pedodontist, and Historian of the Maryland Chapter of the A.S.D.C., Dr. Aaron Schaeffer, Orthodontist, lectured to the Parent-Teachers' Association at Prince Frederick, Maryland on November 13, 1952.

The subject was "Dental Care for Children". Dr. Greenberg spoke on the importance of care of the primary dentition and the six year molar in relationship to their effect on the adult mouth. Dr. Schaeffer stressed the orthodontic phase. Both lecturers were delighted with the intelligent questions asked by the parents.

* * *

Postgraduate Courses

The University of Michigan presents postgraduate instruction in dentistry for children by K. A. Easlick, J. T. Hartsook, W. E. Brown, Jr. and Staff.

December 1 to 12
February 23 to March 6
May 18 to 29

Your reservation and deposit should be made well in advance.

* * *

In the second quarter issue we mentioned the State Boards that were including dentistry for children in the clinical portion of the Board's examination. Recently we received a report from Dr. Ralph Ireland, Chairman of the

Schools and Dental Board Committee regarding a survey of 51 examining Boards.

The survey made by this committee revealed that eight states regularly examine candidates in dentistry for children in the clinical portion of the examination. These states include: Michigan, Kansas, Oklahoma, Nebraska, Illinois, Minnesota, Arkansas and Kentucky. All of these states except Nebraska and Illinois require the candidate to insert a class II silver amalgam restoration.

As you can see, the gate is wide open. We all should encourage and assist State Examining Boards to include the insertion of a Class II silver amalgam restoration as part of their clinical examination. This would be an excellent project for the various state units.

* * *

NO NEWS IS GOOD NEWS, but it doesn't get your name or anyone else's in this column! Send in your news items now to Dr. L. W. Teutsch, 4201 Farnam St., Omaha, Nebr.

Economic Considerations in Dentistry for Children*

EDWARD R. BILKEY, D.D.S.
Toronto, Ontario

AT THE outset of this paper it must be emphasized that the statements, thoughts, and ideas contained therein are entirely those of the writer, and that at no time during its presentation is the writer anxious that his audience infer that such statements, thoughts, and ideas are necessarily endorsed by the teaching institution with which he has the privilege of being associated. A subject such as this which embraces so many variables, intangibles, and precedents, many of which are so firmly rooted as to have become virtually unyielding, is not likely to be favourably received in its entirety. To quote Howard Raper, "Let us call what I have to say a kind of one-way conversation piece to be tasted before swallowing, to be swallowed or not depending on the dictates of the appetite." However, it is my hope that the following points, if they do nothing else, will clear the air of any slow-dying thoughts that the children in your general practices need be a financial detriment, even a financial loss to you.

Most of us at one time or another, having ventured to mention the mystical word "fees", have received the vague answer that such a word should only be whispered; and that if we do good work, good fees are bound to follow. In my opinion such a belief is erroneous. For in this day when people are beginning to haggle over bills which should have been paid a year ago without question and are contemplating payment of these bills with a fifty-cent dollar, it is my recommendation that we give serious thought to all the economic factors of our practices.

When each of us first went about the art of learning to establish fees, we realized that our gross earnings must include allowances for general overhead, retirement schemes, insurance, continuing education, and other miscellaneous items. For purposes of brevity it will be assumed that each of us realizes that these are basic "musts" in fee basing, and as such they will not be discussed.

The decision that a paper of this nature be given at this session, gave rise to a number of mental queries on my part, around which the entire problem whether real or imaginary, seemed to revolve.

WHY ARE ECONOMIC CONSIDERATIONS OF INTEREST?

The most specific question that came to mind was, "Why should a paper under this title, 'Economic Considerations in Dentistry for Children', be of interest to general practitioners?" The first answer was of course, the obvious one, and is probably best stated by quoting Josh Wise who says that "Money is not everything in this world. Sometimes it isn't even 99%." This statement is perhaps a little severe but at least it lends itself strongly to the idea that we must

* Presented before the Canadian Society for Dentistry for Children meeting, in Toronto, May 10, 1952 and reprinted from the Journal of the Canadian Dental Association.

give careful consideration to this matter of fees. Each of us is anxious to earn a living from his dental practice, which will be commensurate with good living conditions for his family, as well as providing for a reasonable inclusion of those material things upon which general happiness and peace of mind seem to depend so heavily.

The second answer was less satisfying and was that the term 'General Practitioner' in dentistry, seemed in far too many instances, to mean 'General Practitioner of Adult Dentistry'. However, for years now our profession has fast been turning its attention to the fields of preventive dentisty and early interceptive protective dentistry. As a result of this change in the trend of thinking in our profession, we general practitioners have been encouraging the attendance of the child patient in our offices. This for some men raised a number of financial barriers and it is my intention in part, to discuss these obstacles and means which may help to overcome them.

Financial Barriers

The first and most ominous of these barriers is whether or not the parents of the children will share our understanding and appreciation of dentistry for children to the extent that they will be willing to pay for it. To this I would hasten to say that I have not yet found a parent who was not eager to learn about and to appreciate dentistry for children, once having had a very few minutes of dental education. In these few minutes, when they are necessary, all horse and buggy ideas are quickly dispelled; ideas such as "these are just the first or temporary teeth and therefore aren't really worth filling", or "just take the tooth out, doctor, he'll be getting another one in there anyway", or "that because they are smaller than adults only half fees are in order".

Once each of us has thoroughly housecleaned his mind of the temporary fillings and "leave-it-and-let-it-rot" attitude, and has completely established an appreciation of the integrity and need for sound restorative, preventive, and early interceptive procedures, this barrier will be lowered. In short once you are convinced, it is a simple matter to convince the parents. To this end I would illustrate with the true incident when one such ardently converted dentist was asked by a parent, "Do you charge the same for children as you do for adults?" His prompt retort was "Oh yes! We don't charge any more for children!"

In every dental office the dentist's chief asset is time. Time consumed by patients, young or old, is that factor for which a fee must be charged. With an adult patient we have our examination, x-ray surveys, surgical procedures, periodontal treatments, routine operative measures, and more intricate and inclusive restorative and replacement procedures. With a child patient we follow a similar pattern consisting of examination, x-ray surveys, surgical procedures, periodontal considerations, and routine operative treatment. This latter tabulation it will be noted, seldom includes prosthetic treatment, but in its place there will be certain preventive, interceptive, and corrective orthodontic appliances. Needless to say, it is impossible to include such appliances without enhancing the hourly income. So it can be seen that the differences are slight, the chief difference being the size of the patient.

Fees

Assuming that the parent is now willing to pay for the child's dentistry, let us

give more specific thought to fees as such, and the means whereby the fees are established. There is of course, the "Tabulation of Materials" method. In many offices, particularly for adult patients, it is a common practice to establish a specific fee in exact accordance with the treatment which has been accomplished. For example, if the dentist has successfully completed a three surface amalgam restoration in a molar, then the fee is arrived at by charging so much for the fact that it is a molar, so much for the anaesthetic, so much for this or that liner, so much because it involved three surfaces, and so on ad nauseam, charging for everything but wear and tear on the chair upholstery. This means of fee basing, even when greatly modified as it sometimes is, to me is a completely undesirable and unpleasant way of arriving at a sound fee. Granted, for years patients have been accustomed to establishing their own mental fees in accordance with the number of bits of metal and the types of metal used; so much so that a buccal pit restoration assumes little difference in value from an M.O.D. restoration. This has been a constant sore spot because of its unfairness, and will no doubt continue to be for years to come. I have never condoned the idea of selling dental materials to my patients a bit at a time. I would rather refer them to the supply houses where they could obtain quantity rates and then bring their own supplies with them. This, however, is not a recommendation.

A second method, on the hourly or appointment basis, is a procedure followed with great success by some general practitioners. Neither is a set fee charged for each operation, nor is there any allowance made for materials as such, unless the cost of materials is particularly high in specific cases. From many viewpoints such a method is ideal, especially in the case of child patients. Here the amount of treatment that can be accomplished in a given time per child, will nearly always be compatible with the desired fee per appointment. On one occasion when this phase of fee basing was under discussion, it was stated in its defence that any hesitation on the part of the dentist in establishing a fee in accordance with the time consumed, indicated that he himself questioned the value of his own services. In hasty refutation of this, it was noted that the question was not whether we think it is worth the fee charged, but whether the parent wil think that the accomplished treatment is worth the fee charged.

Of all the means of fee basing, the combined hourly and material method seems to be one of the most widely used. There are two very positive but subtle risks with this method. Sooner or later the dentist is bound to be inconsistent in his means of establishing a fee with a certain patient, resulting in obvious patient confusion and probable dissatisfaction. More common than this, will be the frequent desperate efforts on the part of the operator to cram into a given amount of time a certain amount of material service necessitating his either running well behind time or cutting corners in order to remain on schedule.

As if the fee picture were not modernistic enough in its complexity, with the children in our practices we have the picture even more involved with a number of variables, to further confuse the general practitioner.

Four Variables

Foremost among these variables should be mentioned "The Type of Child". Under this heading will fall the ideal normal child, which constitutes the greatest

number of our child patients. Here too, however, we must include the behaviour child. This child whether because of fear, belligerence, environment, or physical handicap, must receive special consideration and in many instances the same amount of treatment as done for the normal child, cannot, and must not, be achieved in a comparable length of time. Perhaps it would be wise to include here the age factor, but in my office there is little difference between a good three-year-old child and a good ten-year-old.

Second only to the "Type of Child" in importance as a strong influencing factor in fee establishment, is the presence of the parent or parents in the operating room. I frankly admit that I am not a one hundred per center in keeping the parents in the reception room, but, however, I am glad to state that I am probably a ninety-five per center. With this remaining five per cent whose parents are permitted in the operating room, it is found to be virtually impossible to produce the maximum amount of treatment, and at the same time increasingly more difficult to ideally control the child patient. It is only natural that on these occasions, far too much time is devoted to trying to carry on an intelligent conversation with the parent—the alternative being to turn an almost cold and surly shoulder to the adult. Too, the parent's very presence is an undesirable distraction, time often being sacrificed by repetition of the dentist's requests, or by offering such comforting verbal setbacks as "There, there, dear, the doctor is almost finished now". Of course, such comments are usually made when the appointment has just nicely commenced. Even my assistant's presence in the operating room is minimized as much as possible, for the presence of any third party seems invariably to break the bond of cooperative understanding between the child and myself.

Thirdly, there are the very complicated restorations which can, and often do, utilize an amount of time disporportionate to that consumed for average restorative procedures. Here, unfailingly, it is my ardent desire to glance at my watch and set down a fee that is in complete harmony with the completed time; but at this juncture a little voice from the dark interjects, "But doctor, that's only one filling." One general practitioner, when asked about this problem and when told of my desire to charge exactly what I deemed to be fair in view of the time consumed, offered what I thought were some sound opinions. Ideally, he agreed with charging for the time that had been spent, but as a modification of this ideal he mentioned what I shall consider as the fourth variable of fee basing.

That is, the seemingly marked degree of variation in the ability of dentists to render a comparable amount of treatment per given time. This, unquestionably, is true, but so too is it a fact, I feel, that there is a definite average amount of restorative treatment that can be accomplished per appointment, per child, by the average general practitioner. The only real danger is the human element, which would permit a dentist to wilfully accomplish the minimum amount for the maximum fee, and attempt to justify his actions by his watch. Here, the obvious hazard could be the loss of his practice.

It is in my nature to want to conduct my general practice with the least amount of friction, and at the same time to make a full productive usage of the appointment times that have been set aside. In order to do this, the above-mentioned

four influencing factors are eliminated as far as possible.

Practical Procedure

Firstly, the average child is given an average length appointment, usually one half hour to an hour, during which time it is generally found completely practical to produce sufficient dentistry to justify the fee charged, both from the parents' standpoint and from my own. Here I should mention, that I find this can be much more readily achieved when caring for the primary teeth than when treating the permanent. It might be well to digress here for a moment in the specific interest of the recent graduate, whose speed and confidence have yet to reach maturity. For those who fall into this category, may I tactfully suggest cautious consideration of the above fact, perhaps seeking the advice of several local established general practitioners, in order to avoid overcharging. I am not at this time questioning the quality of the treatment rendered, but am merely cautioning against charging for gaining experience. Certainly the higher the quality of the service rendered, the higher the fee, but time alone will instill this appreciation in the minds of your patients.

For the so-called problem children I render as much treatment as possible and charge in exact accordance with the time consumed, and seldom, if ever, receive a complaint from the parents.

Secondly, the parents are nearly always requested to remain in the reception room.

The third variable, the problem of the complexity of the treatment, can in many cases be eliminated in one or both of the following ways:

By careful treatment planning. When a youngster requires a number of restorations, some of which are difficult and some simple, an effort is made to combine one or more of the simple and the complex procedures in each appointment, depending upon the length of time available. This measure will often avoid having several very difficult appointments, followed by several time-wasted appointments. At the conclusion of each visit a brief notation is made of what is to be done during the next appointment, which helps to avoid any delay in starting.

By giving an estimate. There are those who strongly decry giving an estimate and there are those who are equally avid in their approval. Those against estimates will say that you are selling materials, and this in part is true, depending upon how the estimate is given. It is my practice, when giving an estimate, which is the case with nearly all large accounts, to say to the parents. "No doubt you would appreciate knowing approximately what the fee will be to complete your child's dental treatment." Candidly, I believe that the parents do appreciate knowing the approximate cost but the above phrasing offers an easy means of discussing money without being cold blooded, and without mentioning the number of fillings and extractions, and such, that are necessary, as well as permitting ideal allowances for difficult treatment. This method is not adopted in every case, particularly on recall visits with well-established patients who are familiar with the fees charged. At all times when an estimate has been given and the parents have requested to pay at the end of each appointment, it is suggested to them that they pay whatever amount is convenient at this time, and that the balance of the account will be rendered when the treatment is completed. This avoids misunderstanding and embarrassment on occasions when the appointment

fee has exceeded the amount carried by the parent.

To the above basic factors in fee basing, and their influencing variables, I would like to add a few subordinate features, which tend to produce a more satisfactory financial foundation for my practice.

Subordinate Features

There is in my office a reasonably accurate time allotment for recall appointments. This time is evaluated in accordance with the susceptibility of the child and the likelihood of new caries; the likelihood of possible eruption irregularities and potential malocclusions which may necessitate detailed observation and charting.

The request to "Just take a look at the other child that came along please," is usually discouraged if possible. This, if accurately translated, usually means "Would you please take time to take a free look at my child?" An inadequate examination may temporarily satisfy the parent much to the youngster's future sorrow; for a quick look will seldom reveal the true picture. However, good public relations and common courtesy should guide us in our decision.

Accurate assessment of time for consultation appointments, or for patients seeking advice is difficult, but such appointments are usually made bordering on a lunch hour where a favourable leeway can be created.

One of the most important features of any practice is the employment of a cooperative and competent assistant. The presence of such help will greatly increase the number of patients that can be seen per week. On an average, ten to twelve youngsters can be seen per day with an assistant. The average new child patient needs from three to five appointments per year for routine fillings alone or about two-and-a-quarter to two-and-a-half hours per year. Many will need considerably more appointments where any preventive measures such as space maintainers, or corrective orthodontic appliances are needed. This, coupled with the backlog and current accumulative rate of dental disease, renders a capable assistant an invaluable and necessary ally.

Another feature in connection with appointments is the charging for those which are broken. This is carried out reluctantly and only for chronic repeaters and never when the excuse is at all reasonable. In an attempt to avoid broken appointments, each patient is given an appointment slip which includes a notation of a charge which will be made for appointments which are broken without due warning. As a further precaution all appointments are confirmed by telephone (when practical) the day before. This has one possible bad effect, that of having the patients rely upon the telephone reminder instead of their own memories; but essentially, it is not done for their benefit.

Another point which is also a financial attraction of dentistry for children is that the laboratory and supply bills are greatly reduced at the end of each month when a large number of children have been seen.

Once having entered this maze of concrete and abstract facts, situations and possibilities that are associated with fee basing in the general practice of dentistry, I emerged, dazed but satisfied: satisfied that the ideal means of fee basing for children was by the hour or by the appointment. Again from Howard Raper's article, "Broadly, very broadly, every time a fee is set and paid, one of three things happens. One: the patient has

been sacrificed to the interests of the doctor. Two: the doctor has been sacrificed to the interests of the patient. Three: the interests and welfare of both patient and doctor have been protected." The more I practise general dentistry, the more convinced I become that the hourly or appointment method can be safely, honestly, and remuneratively utilized for the child patients in our practices, thereby protecting the interests of both patient and dentist. And so the scattered pieces of this puzzle unite to form a scene of moral justification, material satisfaction, and gratifying recompense.

Conclusion

In conclusion, I would say that the children in my practice give me far greater pleasure and satisfaction out of practising dentistry than do the adults. Along with this, dentistry for children provides a much nearer ideal basis for establishing and receiving a sound hourly or appointment fee, which at the same time will seem justified from the parents' point of view. What the hourly fee should be depends directly upon the ratio of your overhead to your desired earnings. Just as we will often greatly modify our fees for some, so should we be permitted a certain leeway in the other direction. This does not mean exploitation, but merely a reasonably fluctuating fee basis which can include all exigencies.

The child in my office is a welcomed person, a desirable patient, and not a financial detriment.

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